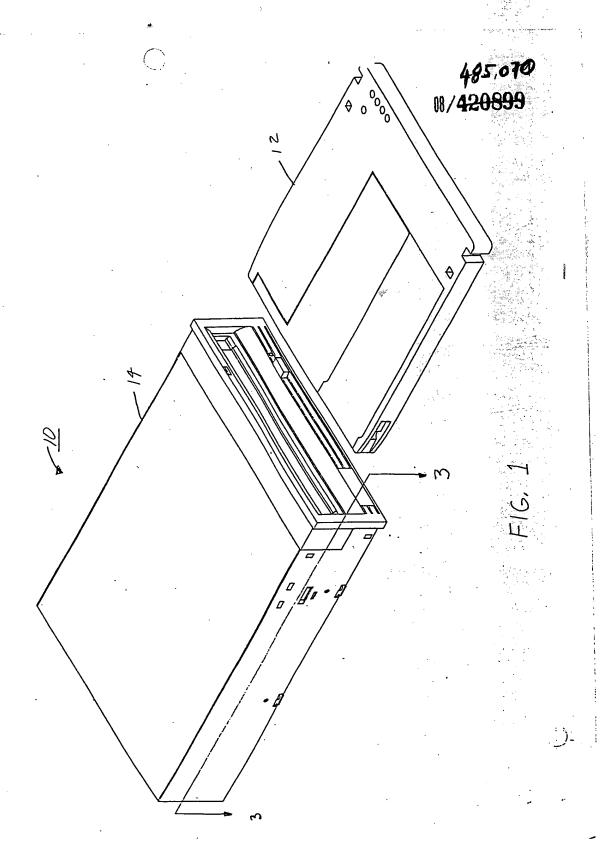
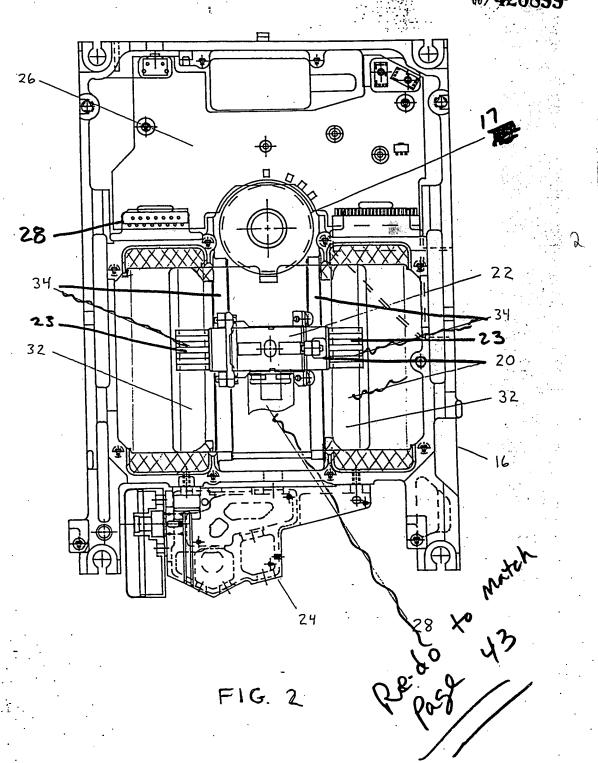
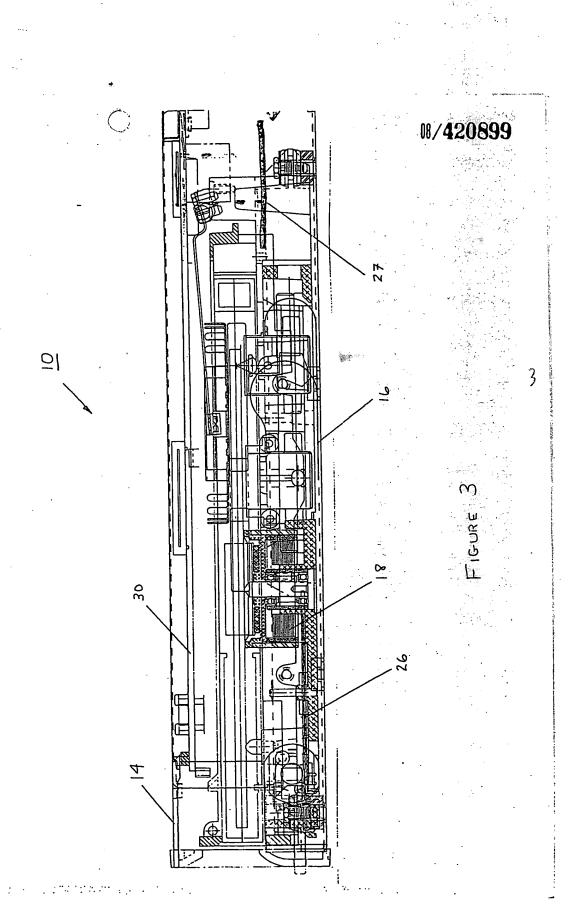
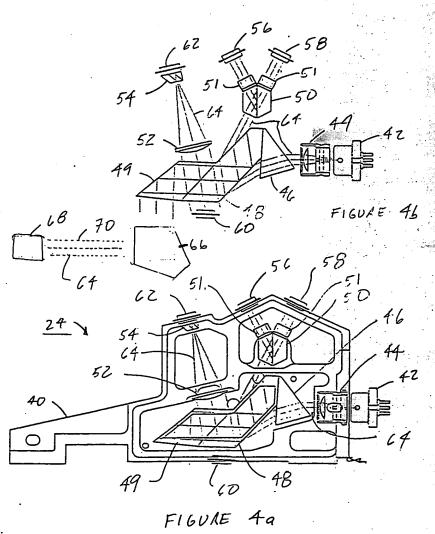
369/32 T. Dinh

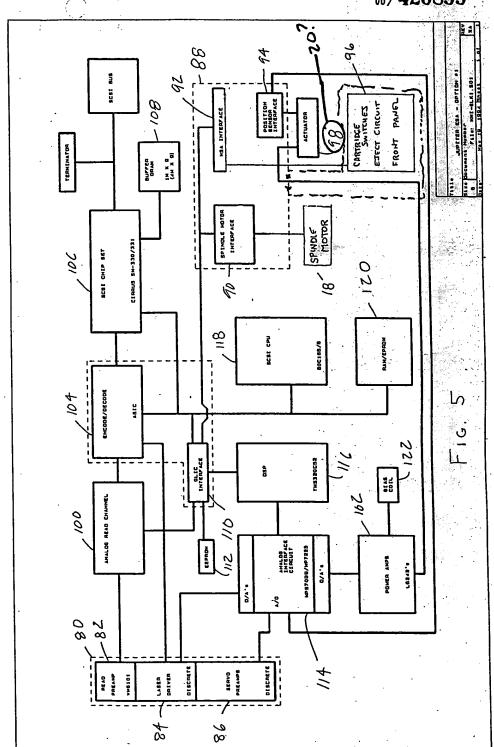
BEST AVAILABLE COPY

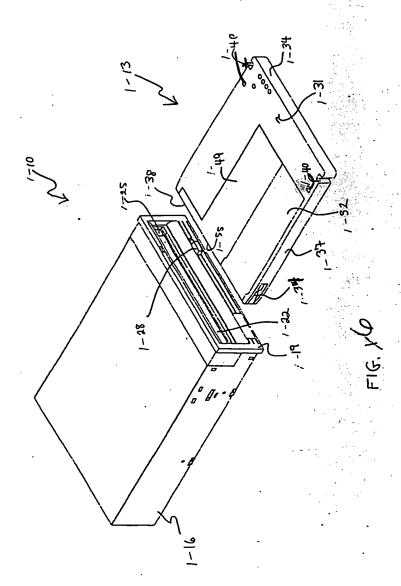












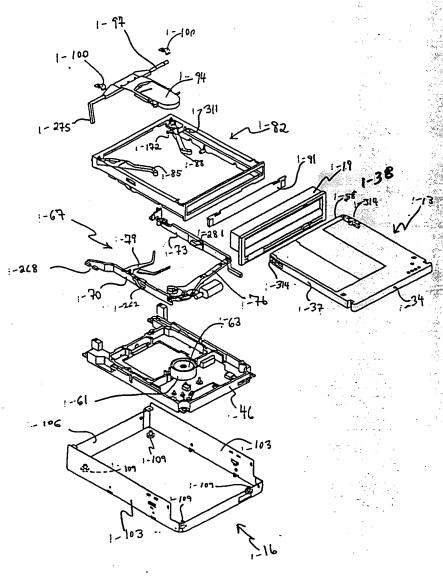
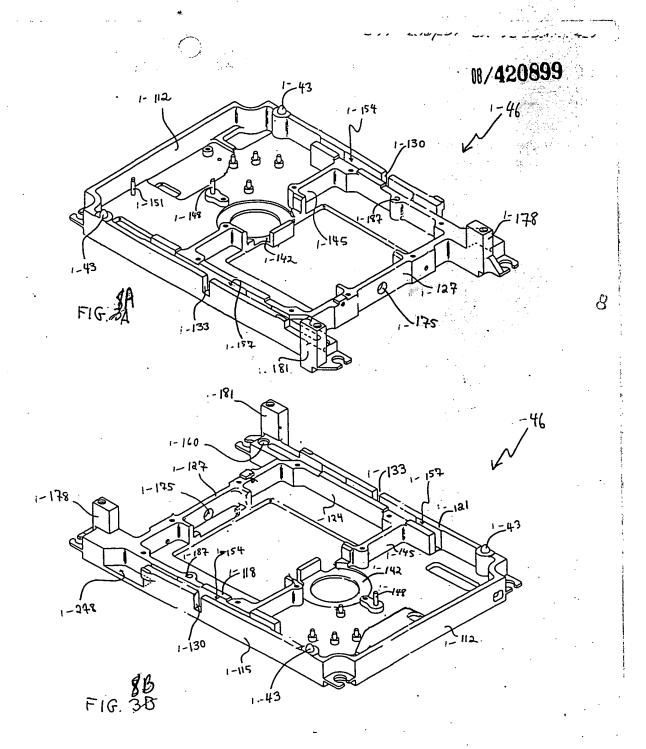
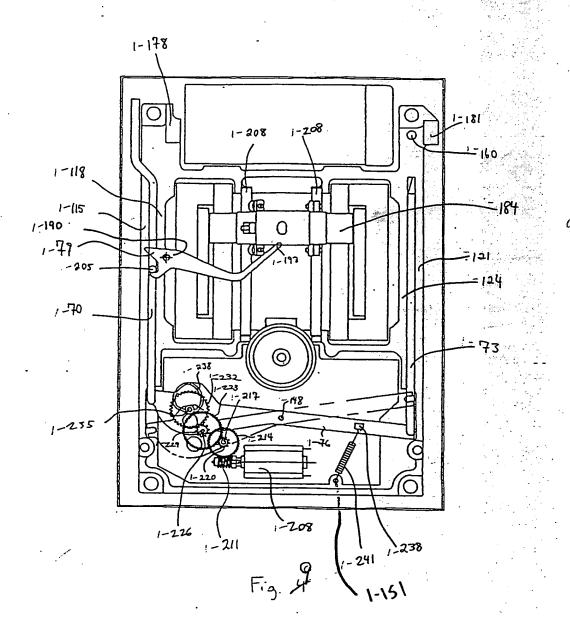
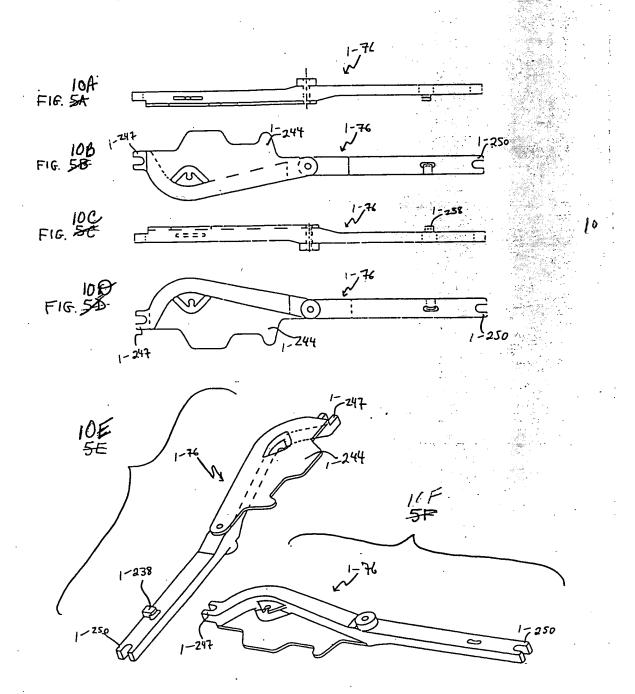
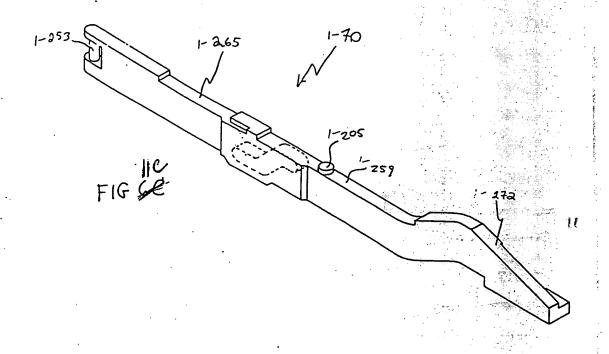


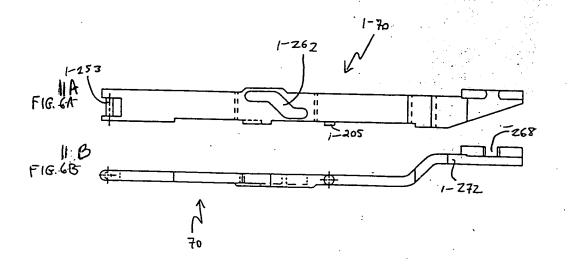
FIG. X

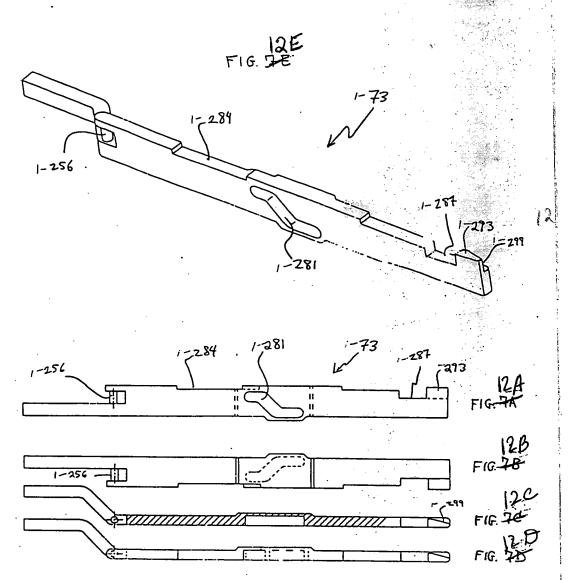




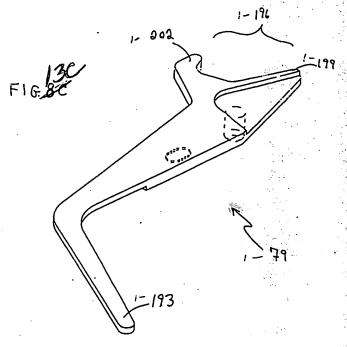


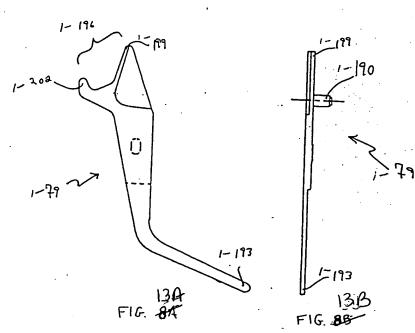


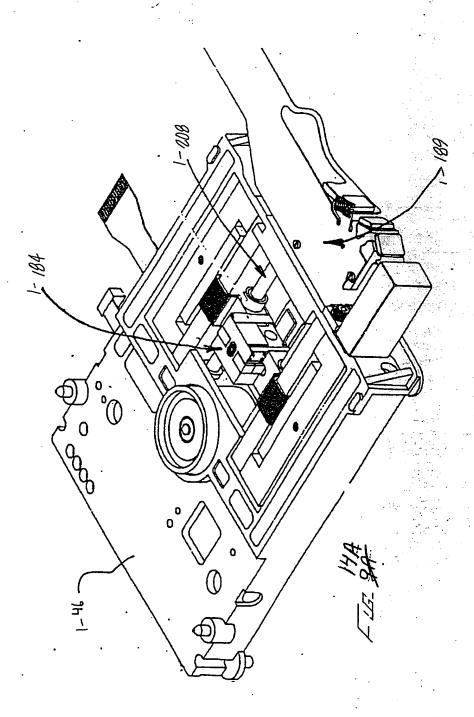


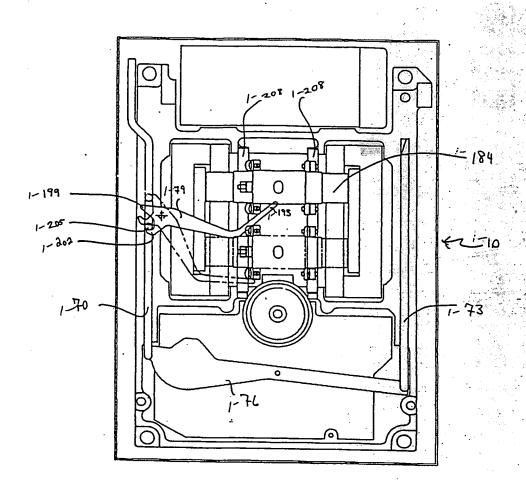


#/420899









14B FIG. 9B

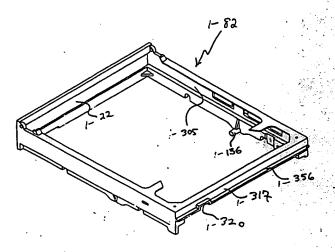
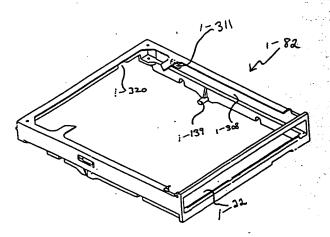


FIG. BA



15B FIG. 188

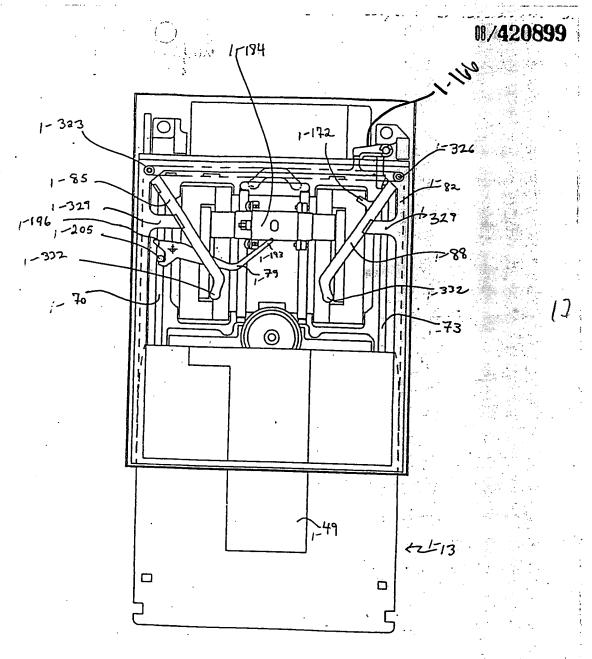
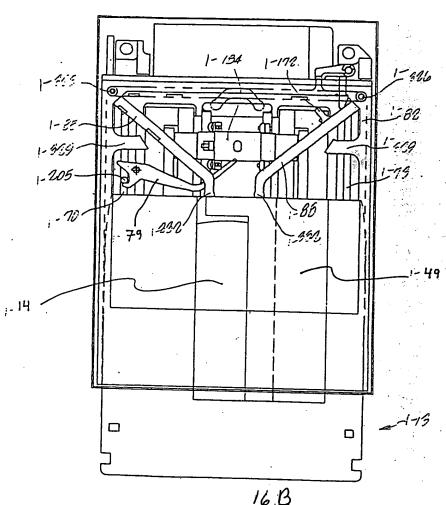


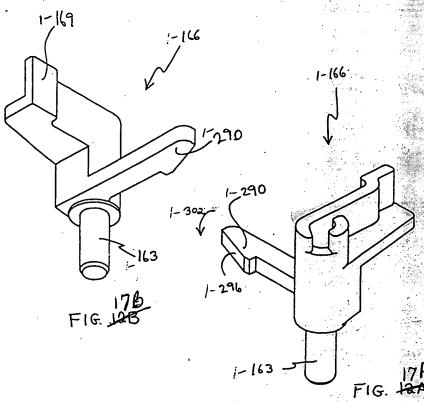
FIG. HAT

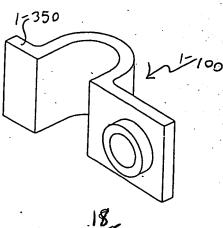


16B

01/420899

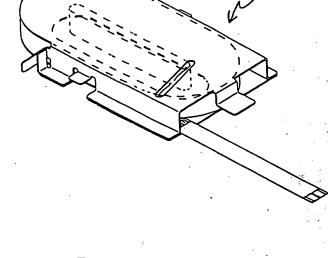
14



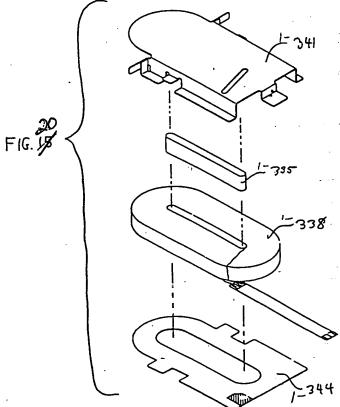


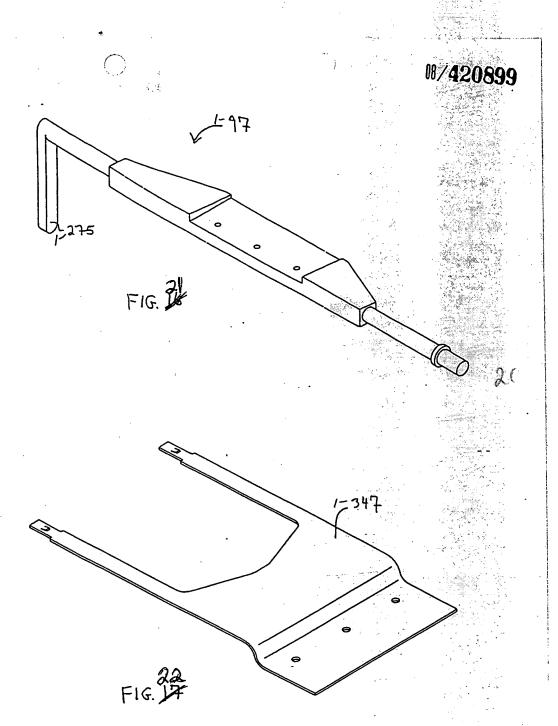
F1G. 18

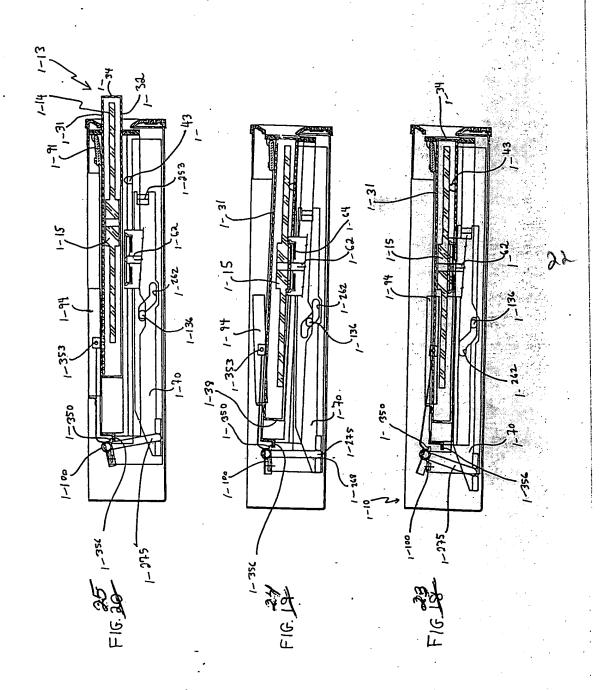




20





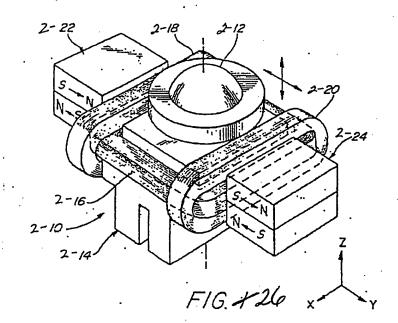


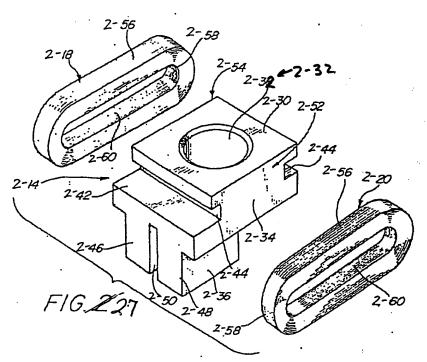
U.S. Patent

Jan. 5, 1993

Sheet 1 of 5

5,177,640





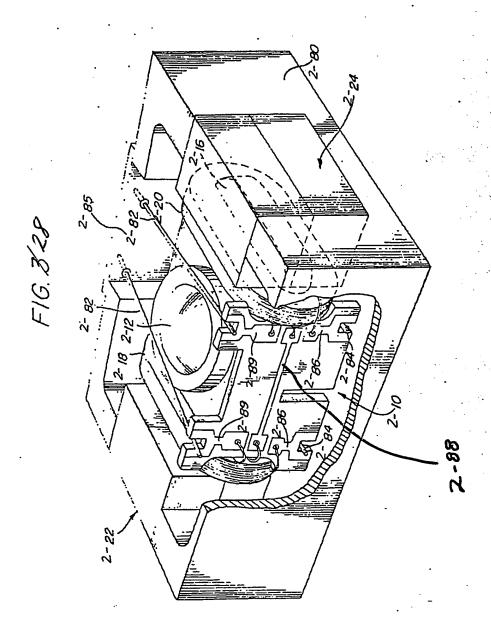
72,

J.S. Patent

Jan. 5, 1993

Sheet 2 of 5

5,177,640



Jan. 5, 1993

Sheet 3 of 5

5,177,640

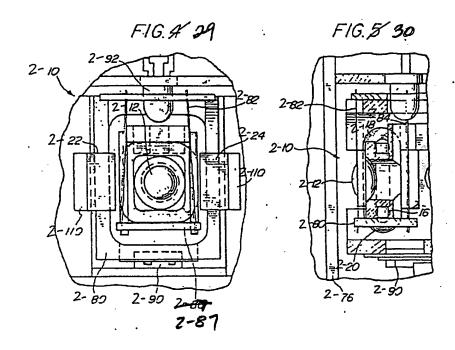
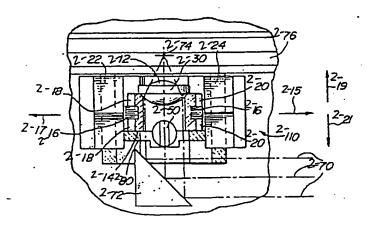
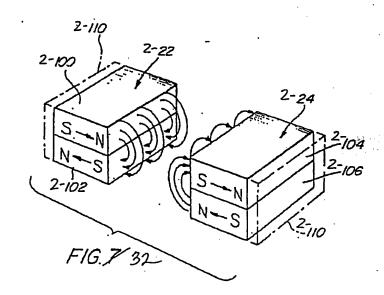


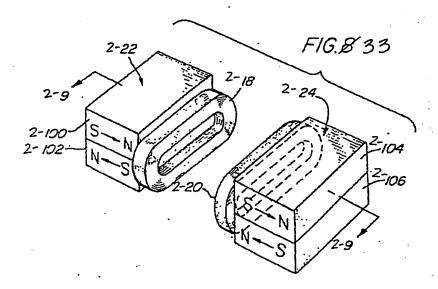
FIG. 6 31



Sheet 4 of 5

5,177,640





Jan. 5, 1993

Sheet 5 of 5

5,177,640

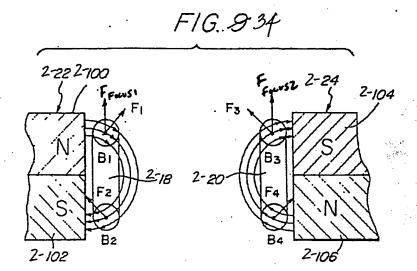
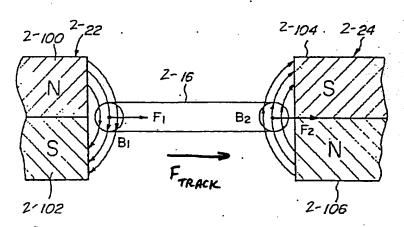


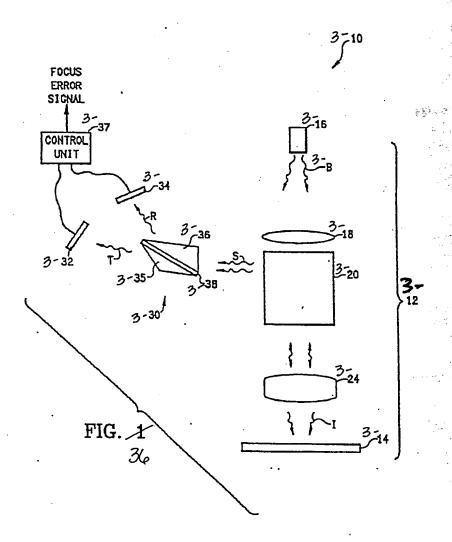
FIG. 10 35



Sep. 14, 1993

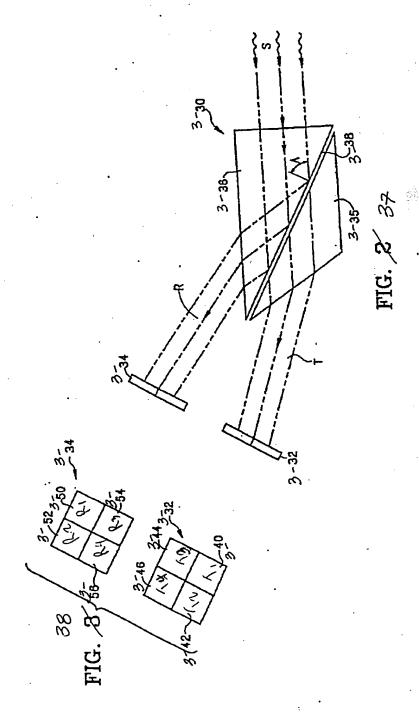
Sheet 1 of 3

5,245,174



Sheet 2 of 3

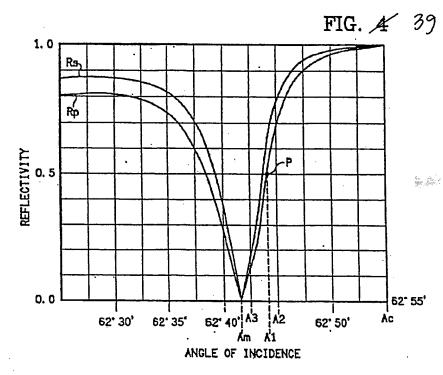
5,245,174

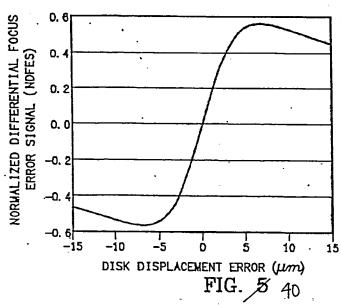


9

Sheet 3 of 3

5,245,174

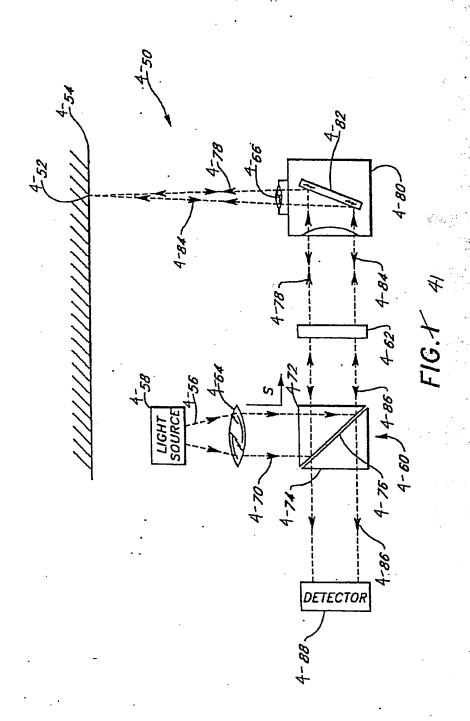




Sheet 1 of 35

5,265,0,,

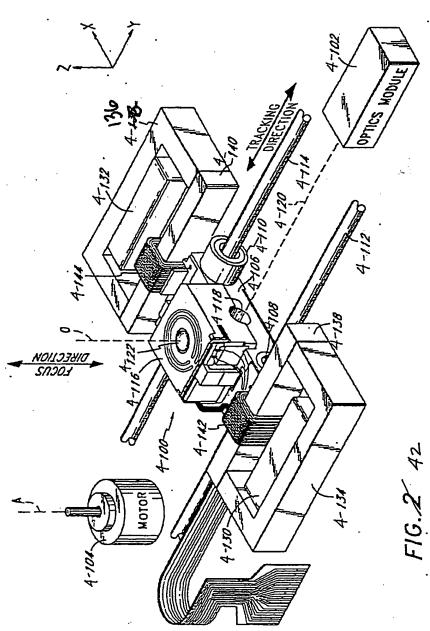
NR/420899



3 |

U.S. Patent Nov. 23, 1993

Sheet 2 of 35 5,265,0/9



U.S. Patent

Nov. 23, 199

Sheet 3 of 35

5,265,6,9

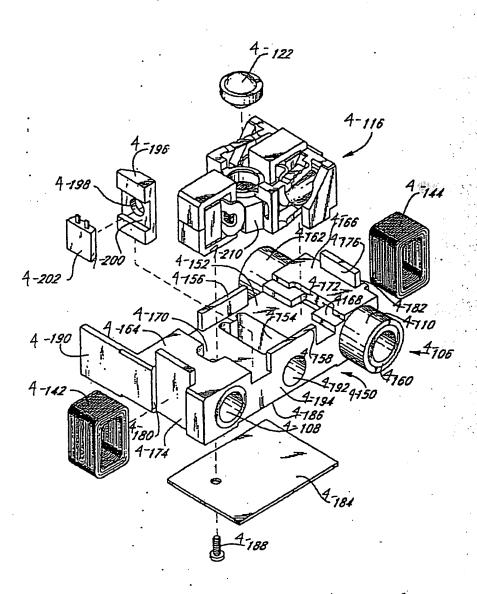


FIG. 3 43

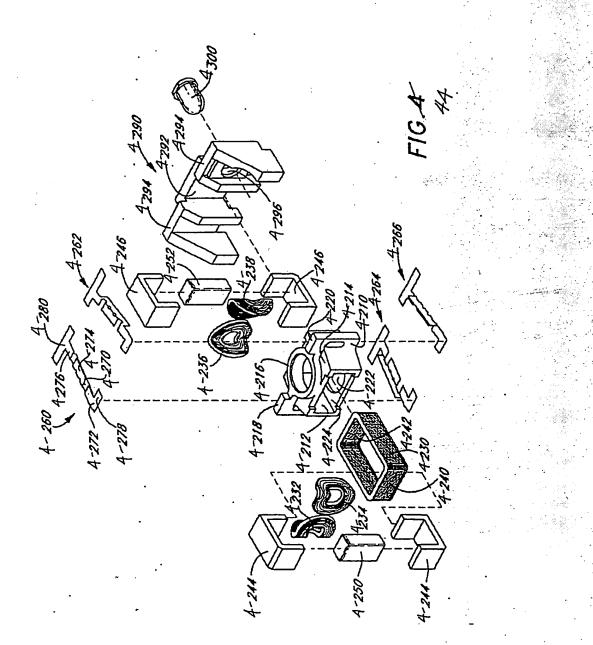
U.S. Patent

Nov. 23, 1993

Sheet 4 of 35

5,265,079

08/420899



24

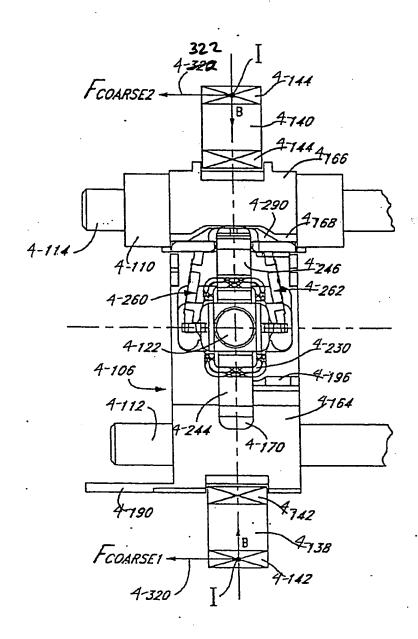
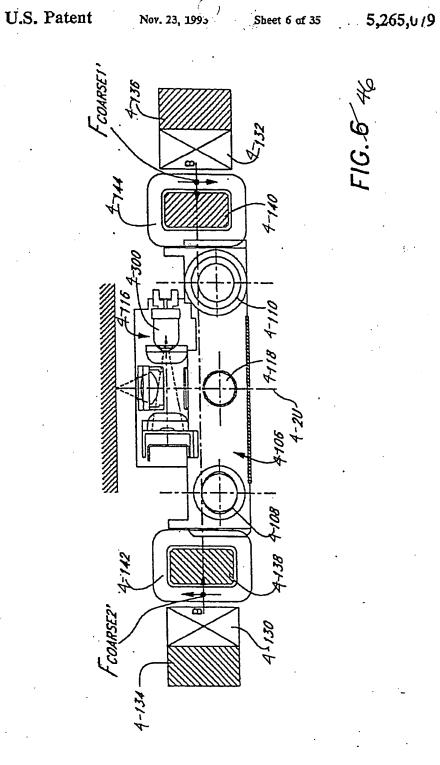


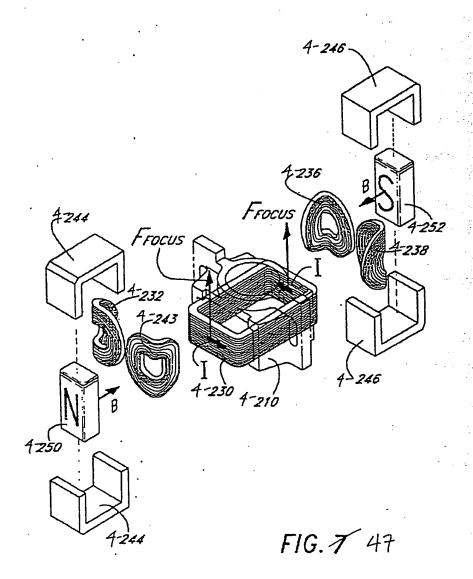
FIG. 5 45



Nov. 23, 1993

Sheet 7 of 35

5,265,6,3

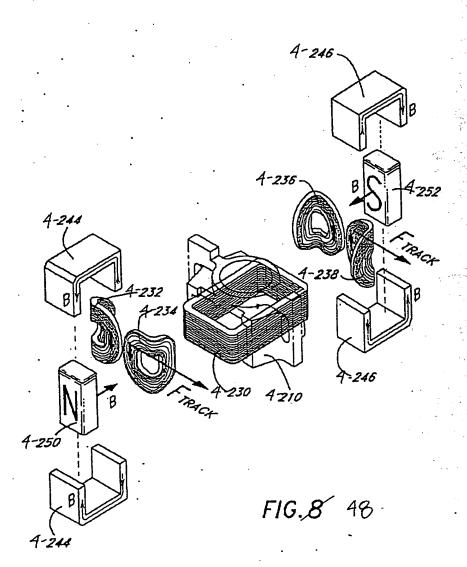


Nov. 23, 1993

Sheet 8 of 35

5,265,079

08/420899



Sheet 9 of 35 5,265,079

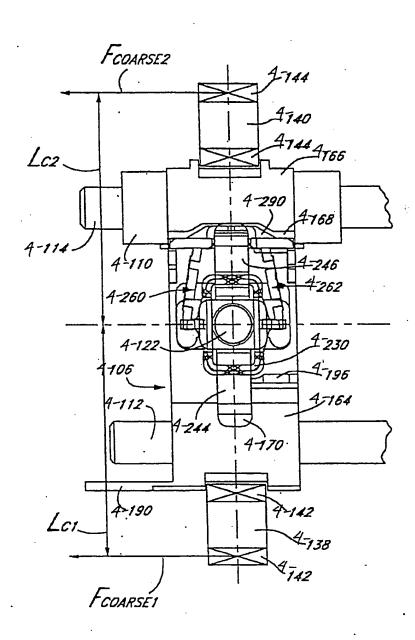


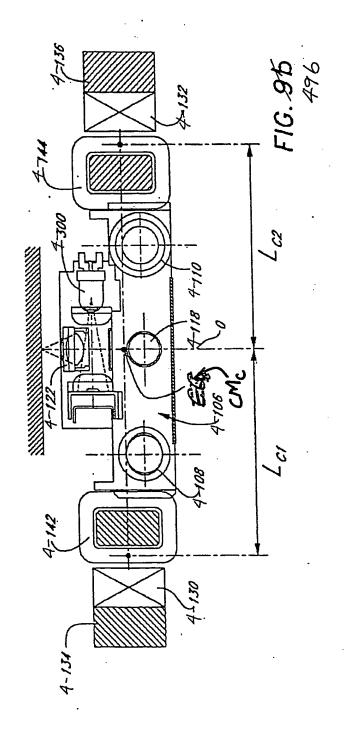
FIG. 96 49a

Nov. 23, 1993

Sheet 10 of 35

5,265,079

08/420899



Nov. 23, 1993

Shect 11 of 35

5,265,0/9

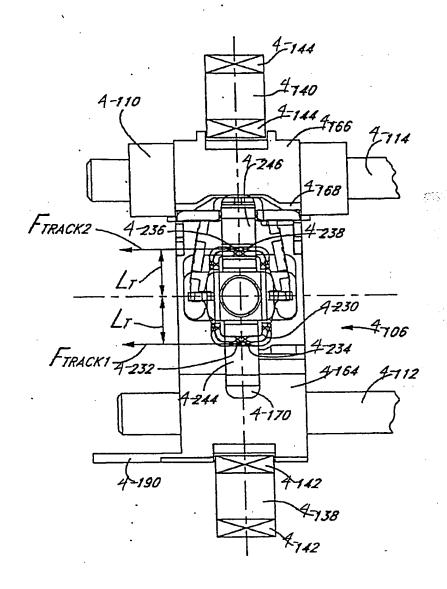


FIG. 10a 50a

U.S. Patent Nov. 23, 1993

5,265,079

Nov. 23, 1993

Sheet 13 of 35

5,265,019

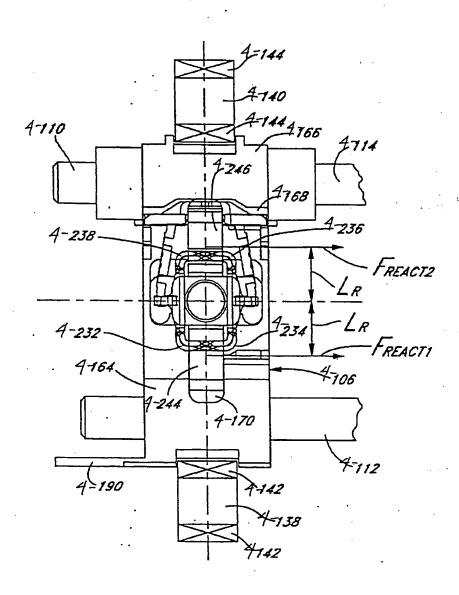
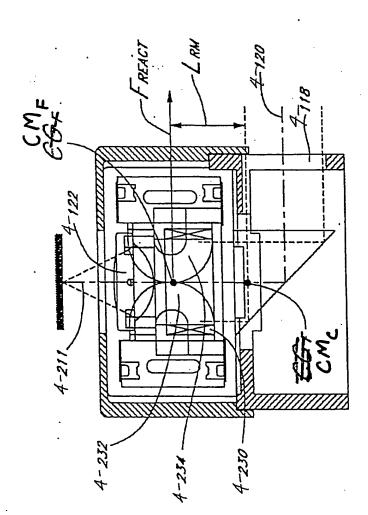


FIG. Ha

Sheet 14 of 35 5,265,079

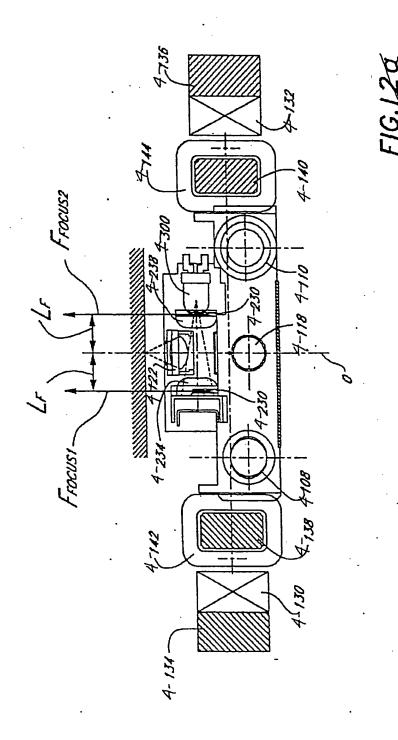




Nov. 23, 1993

Sheet 15 of 35

5,265,079

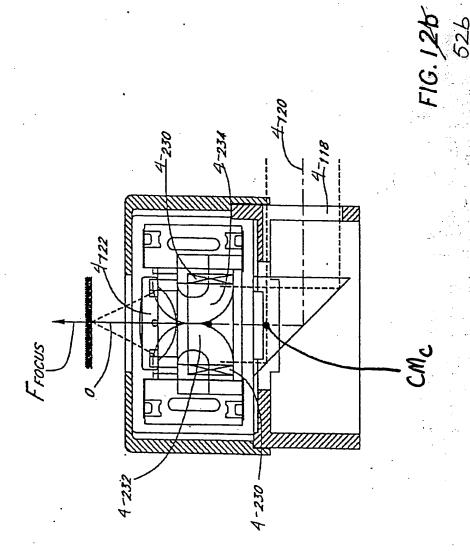


Nov. 23, 1995

Sheet 16 of 35

5,265,079

18/420899

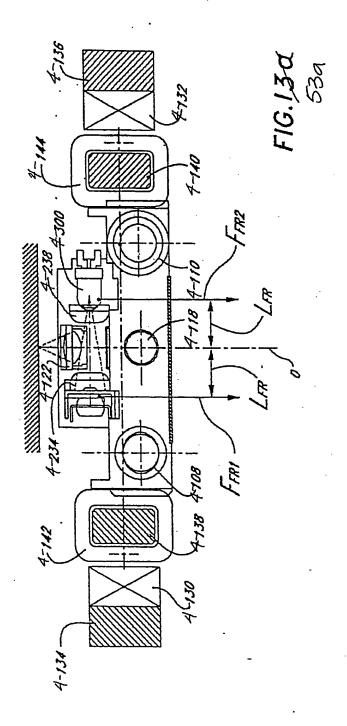


ψ6

Nov. 23, 1993

Sheet 17 of 35

5,265,079



Nov. 23, 1993

Sheet 18 of 35

5,265,0/9

08/420899

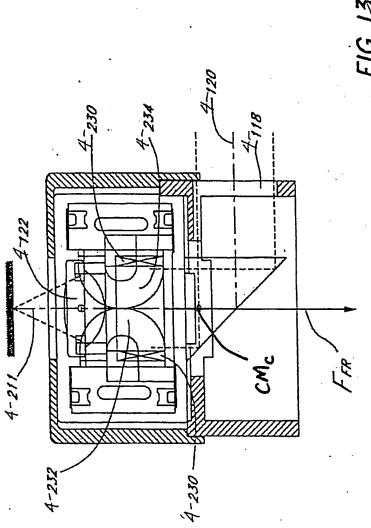


FIG. 13t

Nov. 23, 1993

Sheet 19 of 35

5,265,L.)

08/420899

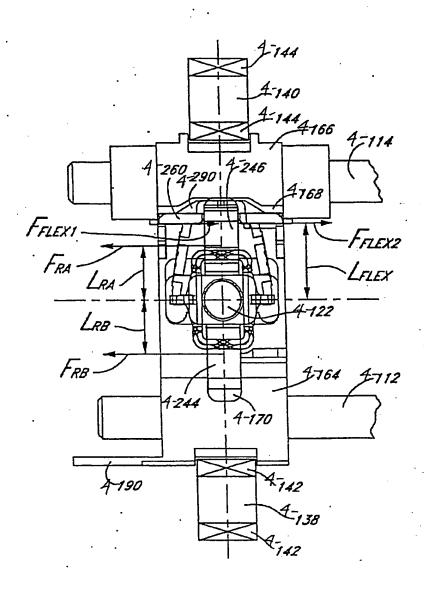
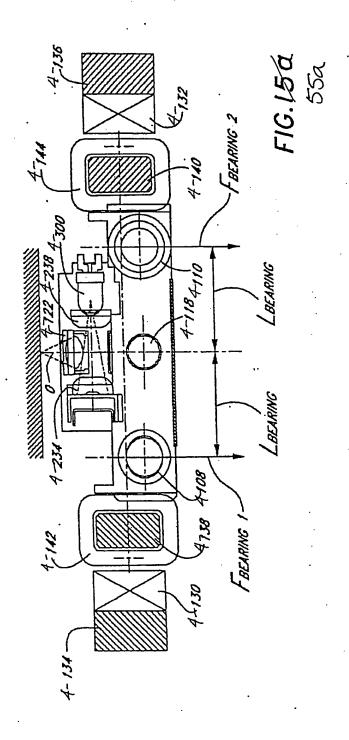


FIG. 14 54

Nov. 23, 1993

Sheet 20 of 35

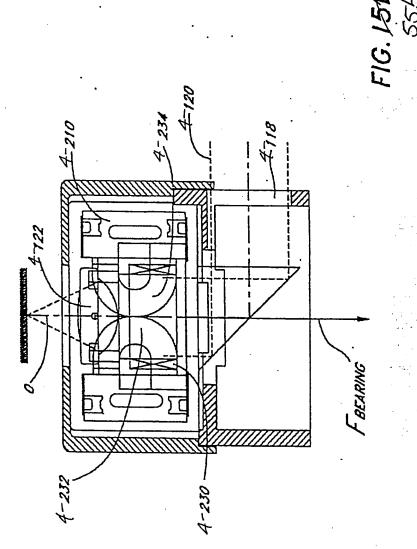
5,265,679



Nov. 23, 1993

Sheet 21 of 35

5,265,0/9



Nov. 23, 199

Sheet 22 of 35

5,265,.,9

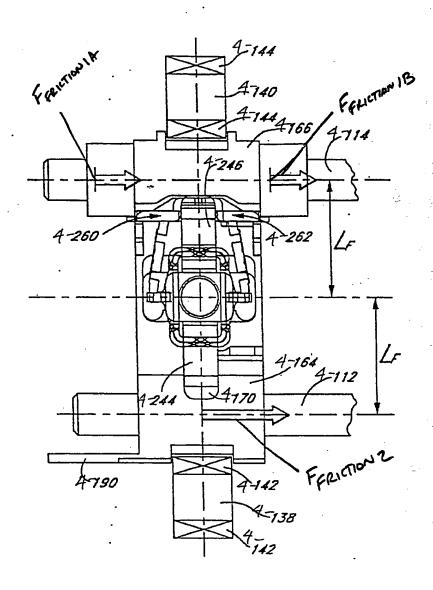


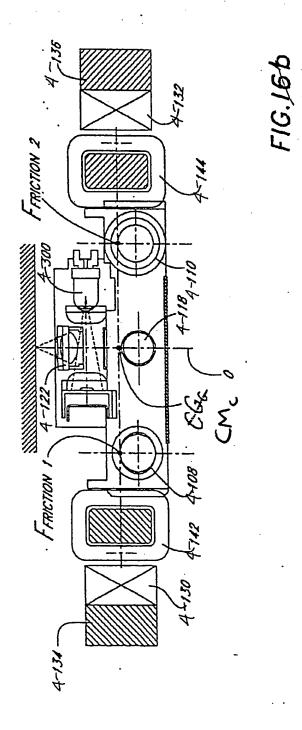
FIG. 16a 56a

Nov. 23, 195

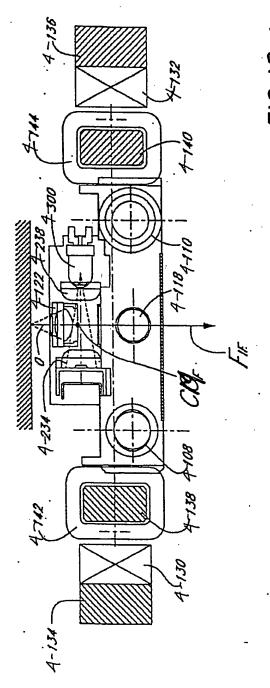
Sheet 23 of 35

5,265,0/9

01/420899



08/420899



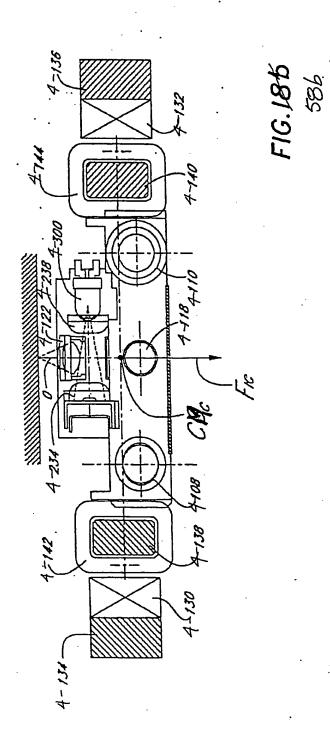
F16.180

Nov. 23, 1995

Sheet 26 of 35

5,265,...9

08/420899



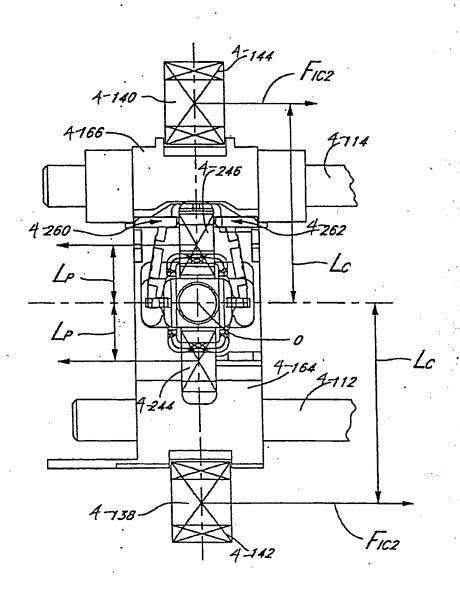


FIG. 196. 59a .

Nov. 23, 1995

Sheet 28 of 35

5,265,0/9

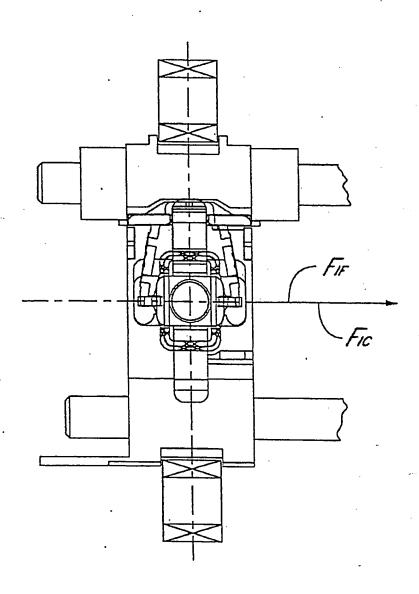


FIG. 1915 596

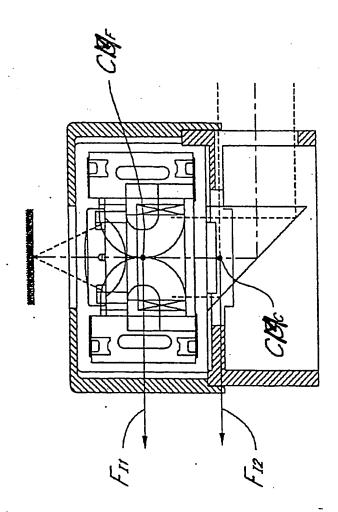
Nov. 23, 1993

Sheet 29 of 35

5,265,6.

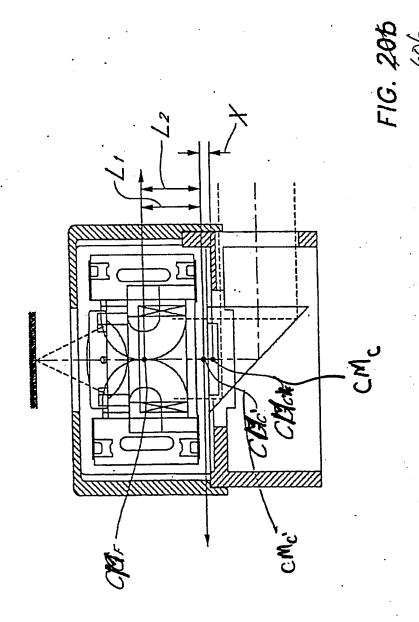
08/420899

FIG. 200 602



Nov. 23, 195.

Sheet 30 of 35 5,265,...9



5,265,.../9 -312 **FMA S/N194** 310 FREO. RESP. FREO. RESP. -50.0 Fxd Y 200 -180 Fxd Y 200 Phase DEG. **4B**

Sheet 31 of 35

U.S. Patent

Nov. 23, 195

Nov. 23, 1993

Sheet 32 of 35

5,265,0,9

18/420899

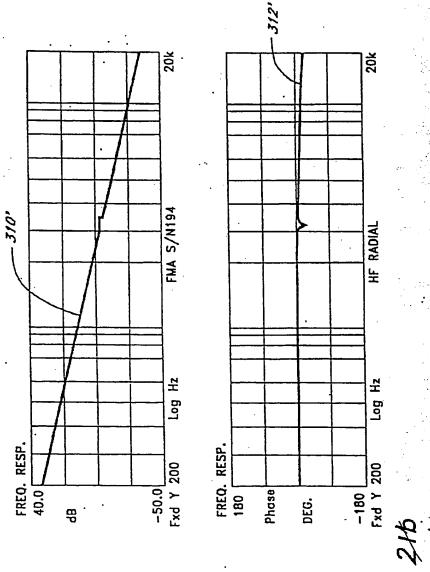


FIG. 276

.2U=

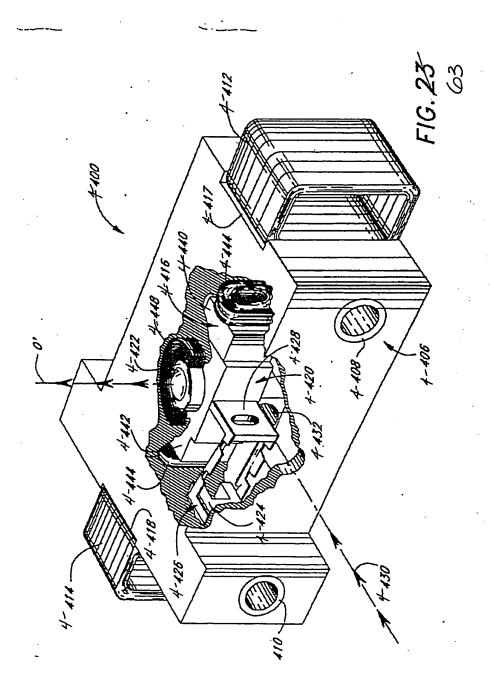
.27

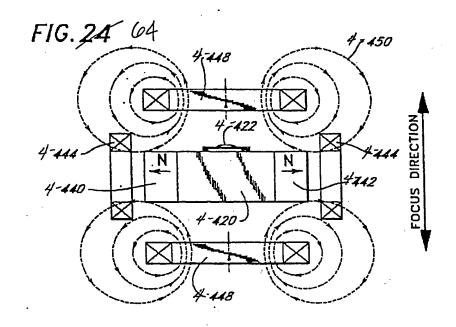
.5U=

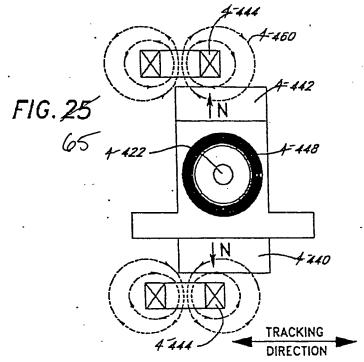
8/420899

Nov. 23, 1993

Sheet 34 of 35 5,265,679

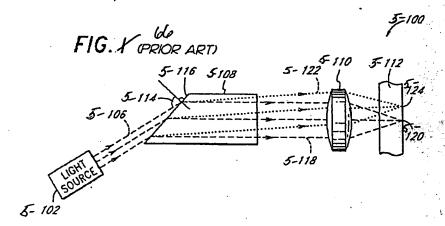


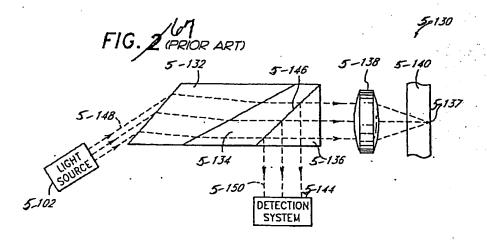




Oct. 13, 1992

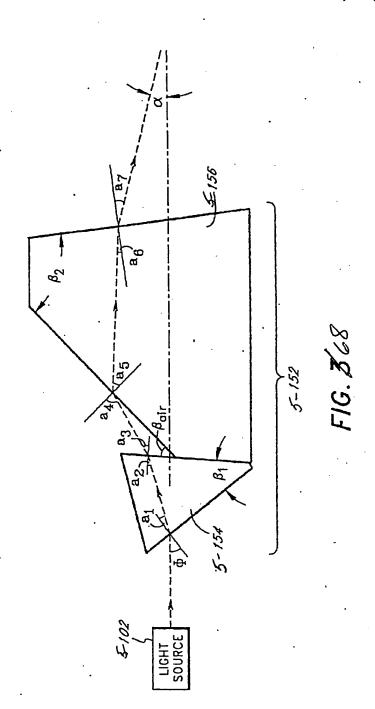
Sheet 1 of 8





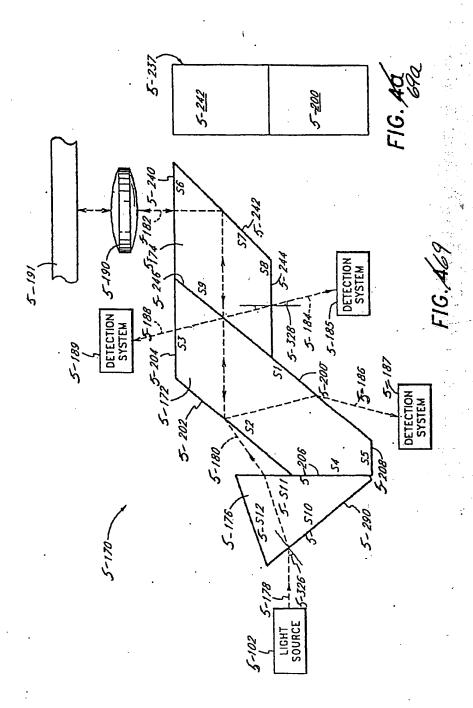
Oct. 13, 1992

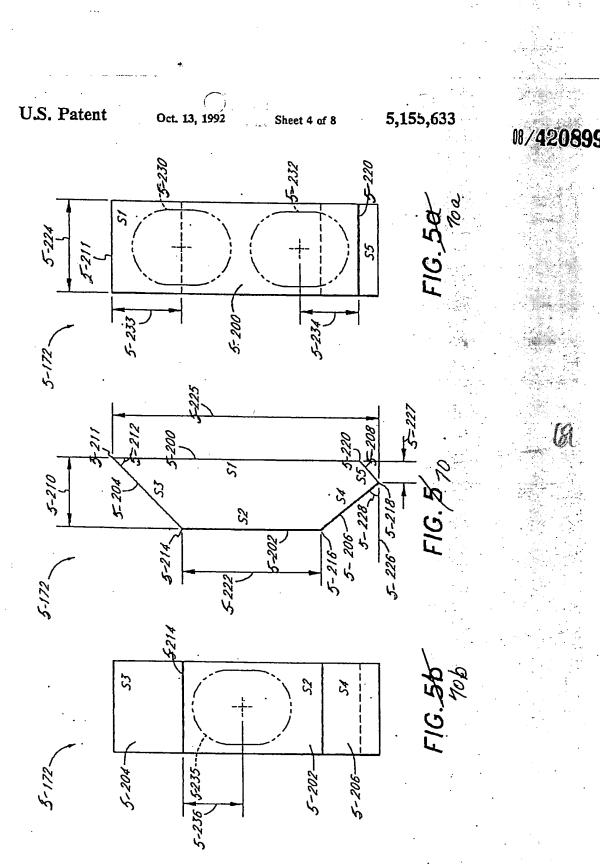
Sheet 2 of 8



Oct. 13, 1992

.. Sheet 3 of 8

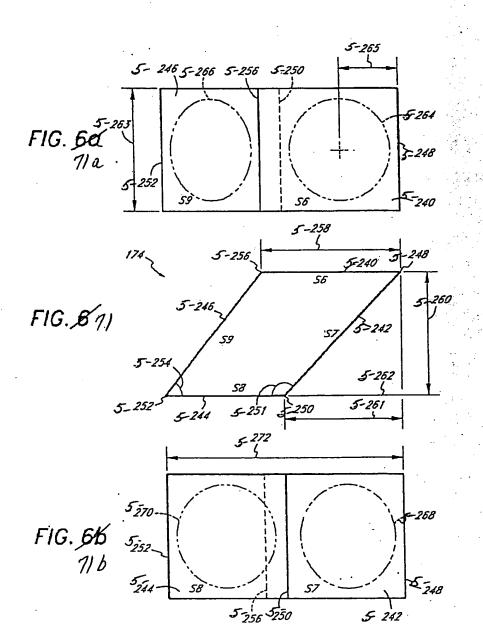




Oct. 13, 1992

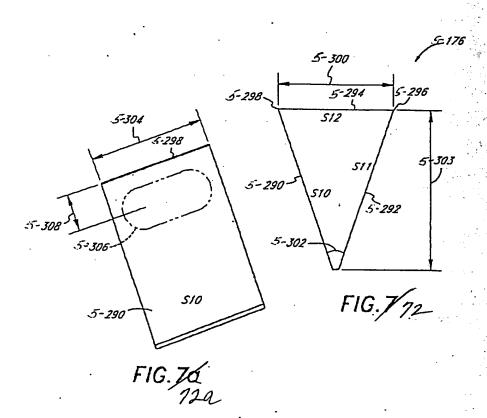
Sheet 5 of 8

5,155,633

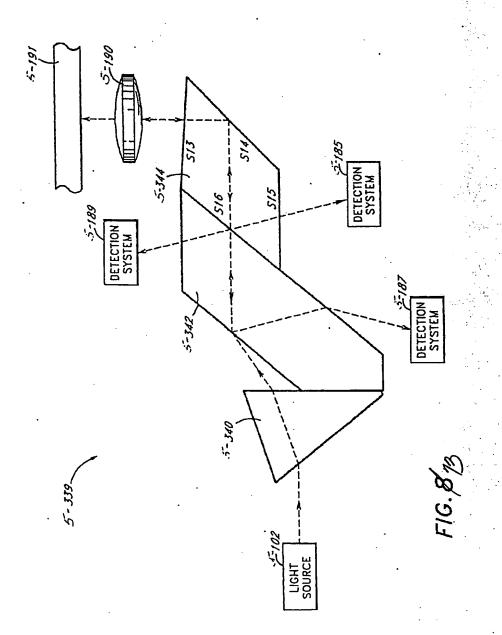


Oct. 13, 1992

Sheet 6 of 8

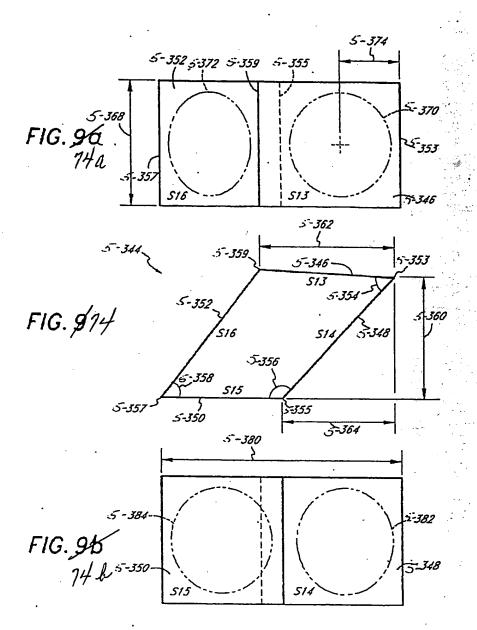


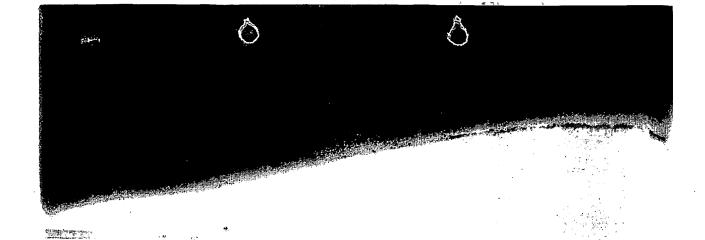
Oct. 13, 1992 Sheet 7 of 8

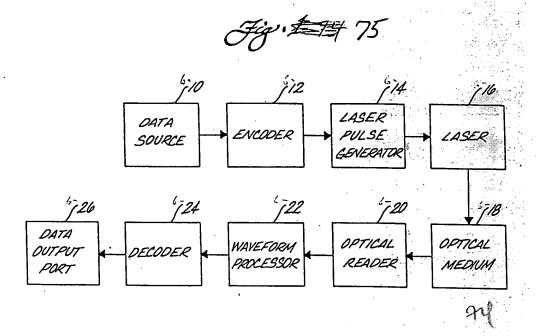


U.S. Patent

5,155,633

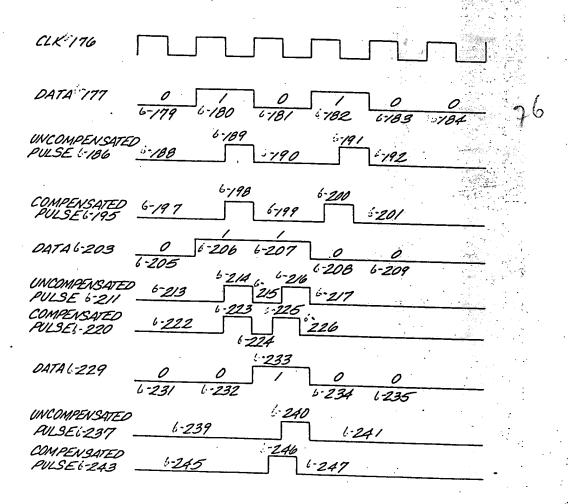


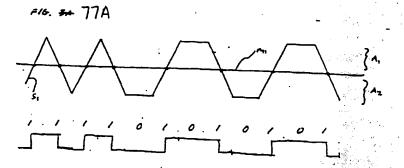


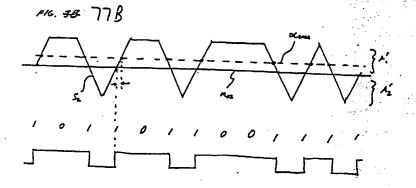


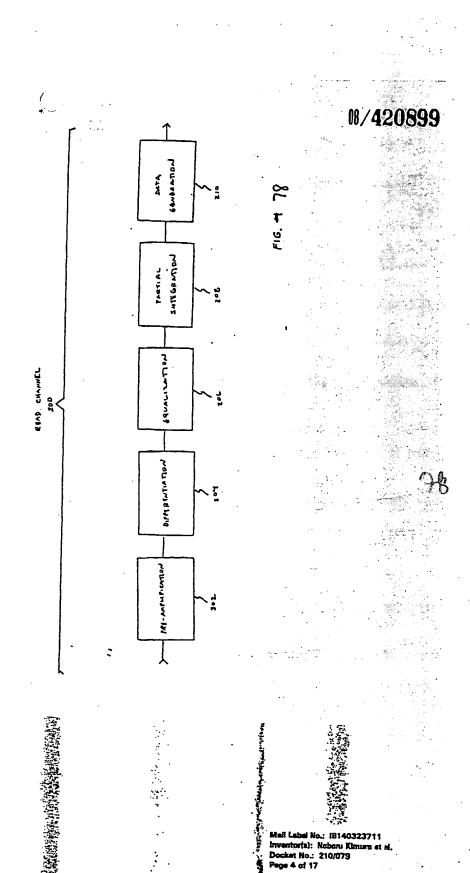
6.30 131 132 133 34 35 36 37 6 38 139 140 CELL6-28 -63 NSEC. (15.879 MHZ) 35 NSEC. 1-82_ 83 84 85 RECORDED PITS 6-80 4-92 93 94 95 96 97 98 99 100 101 102 PLAYBACK SIGNAL (IDEAL) -35.4 NSEC. (28.23 MHZ) 2F CLOCK 120 RLL 2,7 DATA 6-122 125126 127 128 130 131 132 133 134 135 129 PULSED 2,7 6-139 137 1406-1416-142-143 144 145 146 147 162 6-163 6-164 6-165 RECORDED PITS 160 PLAYBACK SIGNAL (IDEAL) 6-167 : 168:769:170

Fig. 3 \$ 17





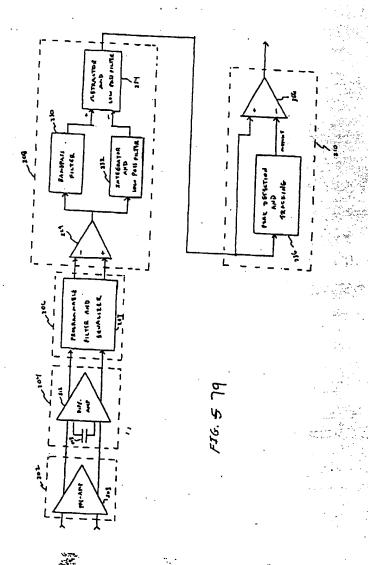




7195273401:= 5/18

: 1-52-82 : 5:46FM : LYon & LYon LA.

Z. ; 35 SENT BY: Lyon & Lyon L. A.

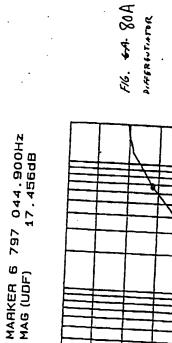


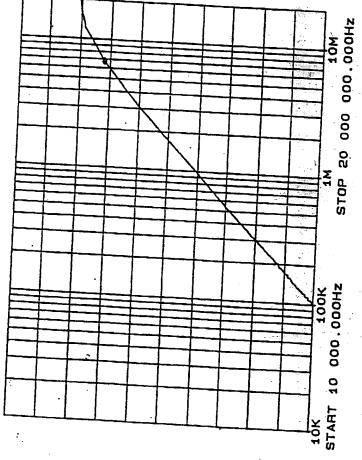
Mail Label No.: IB140323711 Inventor(s): Noboru Kimure et al. Docket No.: 210/079 Pone 5 of 17

81/9 #:1000223812

: 1-52-82 : 5:485% :

SENT BY: Lyon & Lyon L. A.

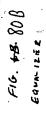




Mell Label No.: IB140323711 Inventorial: Nobinu Klimura et al. Docket No.: 210/079 Page 7 of 17

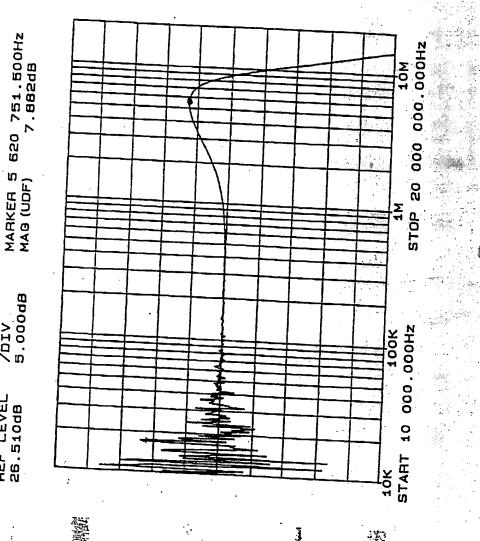
/DIV 5.000dB

HEF LEVEL 31.500dB



/DIV 5.000dB

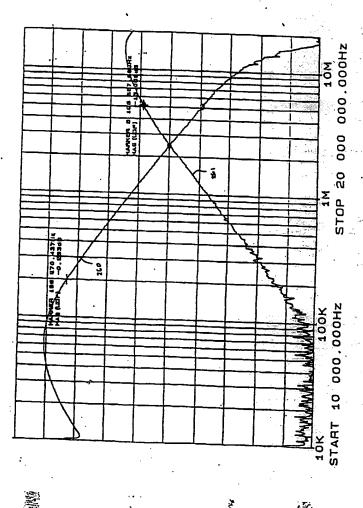
REF LEVEL 26.510dB



Maß Label No.: IB140323711 Inventoris): Noboru Kimura et al. Docket No.: 210/078 Paga 8 of 17

F16. 40 80 C Is Pickator

544 - PAES



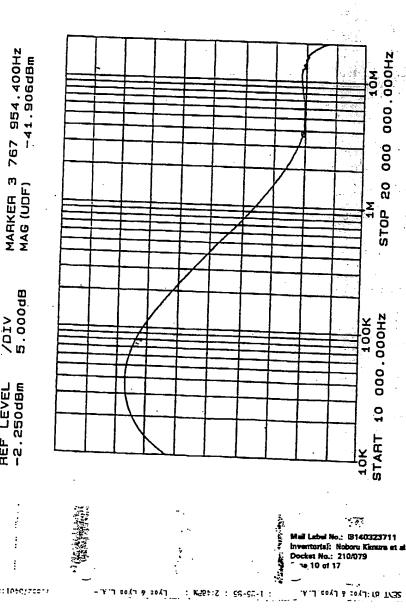
Mell Lebel No.: IB140323711 Inventorial: Noboru Kimura et Docket No.: 210/079

MARKER S 105 657.600Hz MAG (UDF) -26.6694B

/DIV 6.000dB

REF LEVEL 9.600dB

FIG. 60 80 D PORTIOL INTEGRATION



Mail Label No.: IB140323711 Inventoris): Noboru Kimura et al. Dockst No.: 210/079

Plaife: Inequacers

/DIV 5.000dB

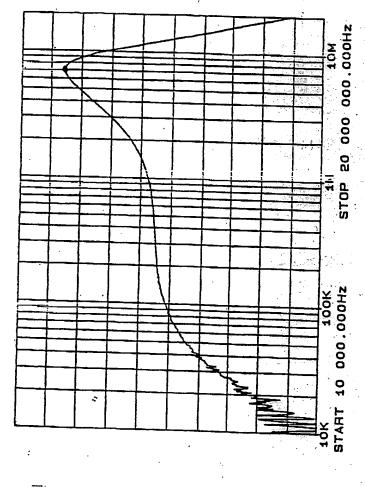
REF LEVEL -2.250dBm

FIG. 6E 80 E per perpure

MARKER 7 064 731.500Hz MAG (UDF) 24.277dB

/biv 5.000dB

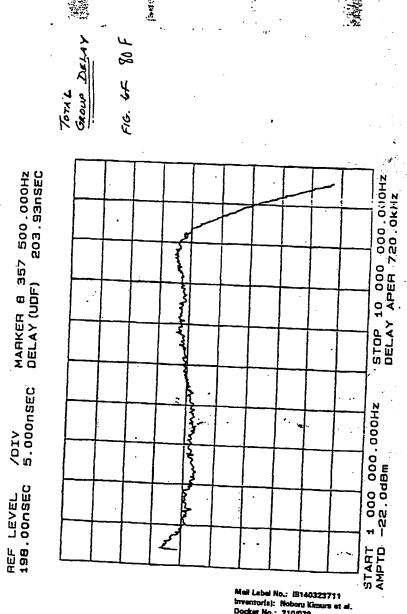
REF LEVEL 31.510d8



Mell Label No.: IB140323711 Inventor(s): Noboru Kimura et al. Docket No.: 210/079 te 11 of 17

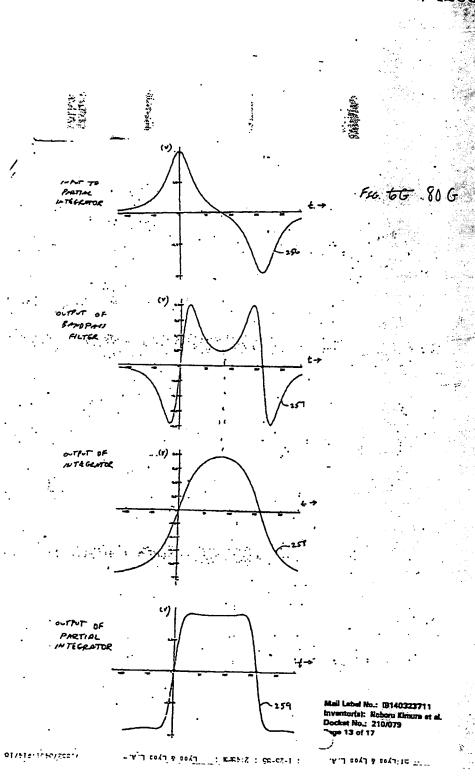
י דיבטביי ביישמעצי באסט פי דאסט פי דאסט

שכוו פנ:רגונים רגוני דיש



Mail Label No.: IB1403237711 Inventoris): Noboru Kimurs et al. Docket No.: 210/079 Page 12 of 17

1 -



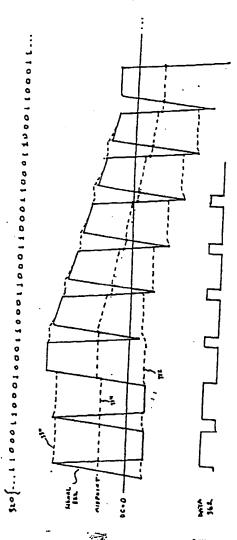
61\61=:10+C758817

- All toyl & toyl

: K-65: 7 : 56-57-1 :

ALL moyl & moylitte than

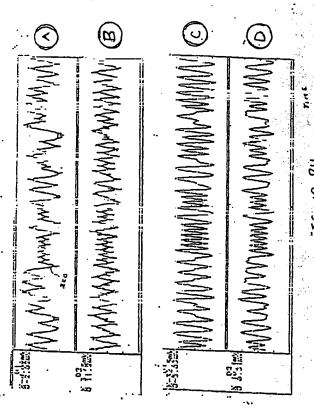
形:-ご. J 22-141 ST SHITTS 22-142 100 SHITTS 27-144 200 SHITTS ζ No.: LB140323711 Inventor(s): Noborts Kimure et al. Docket No.: 210/079 Page 15 of 17 - 1-72-92 : 7:4364: 5 : 1-72-92 : 81/912:10#6752817



F16.4 83

1. The second (1. 1888)

Maß Label No.: IB140323711 Inventorial: Noboru Klaura et al. Dockst No.: 210/079



3 CUTI-1 AA

Mell Label No.: IB140323717 Inventorial: Noboru Kirnara et al. Docket No.: 210/079 SENT BY: Lyon & Lyon L. A.

: 1-19-95 ; 9:07AM ; Lyon & Lyon L.A. →

08/**420899** 719 527 3402:#°2/-4

JID JIZ JIA JIG

OATA
SOURCE ENCODER PULSE
AENERATOR

1726

1724

1720

1720

1720

OATA
OUTPUT
PORT

DECODER

WAVEFORM
PROCESSOR

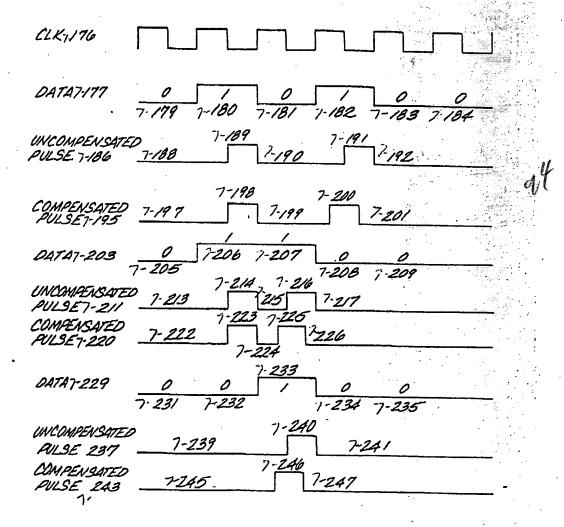
OPTICAL
READER

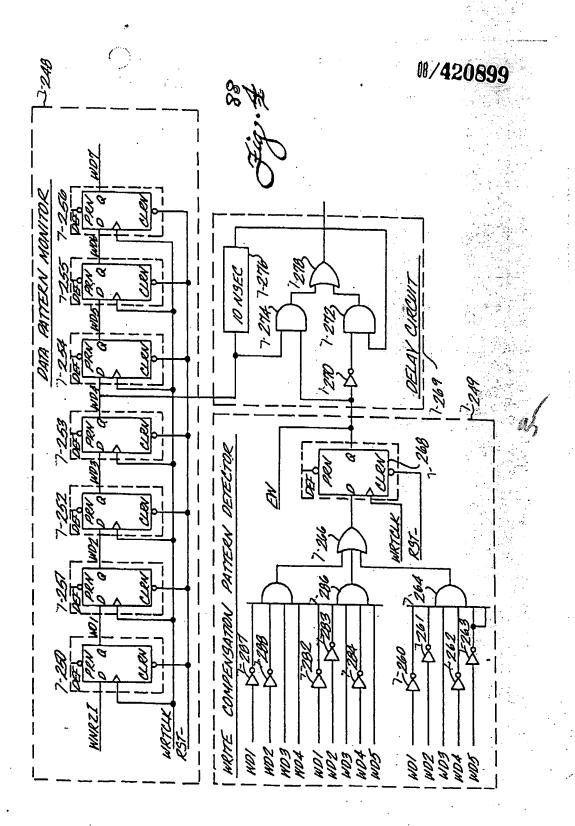
OPTICAL
NEGRUM

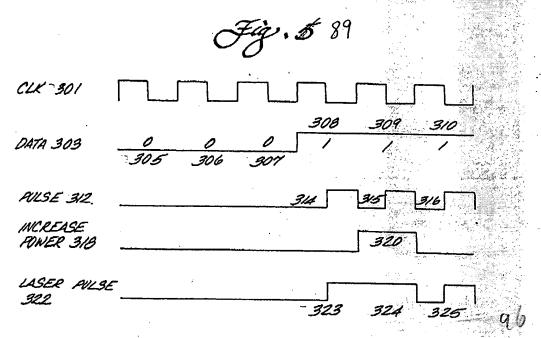
W/420899

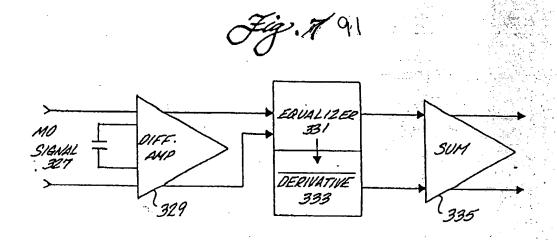
d7

Fig. 887

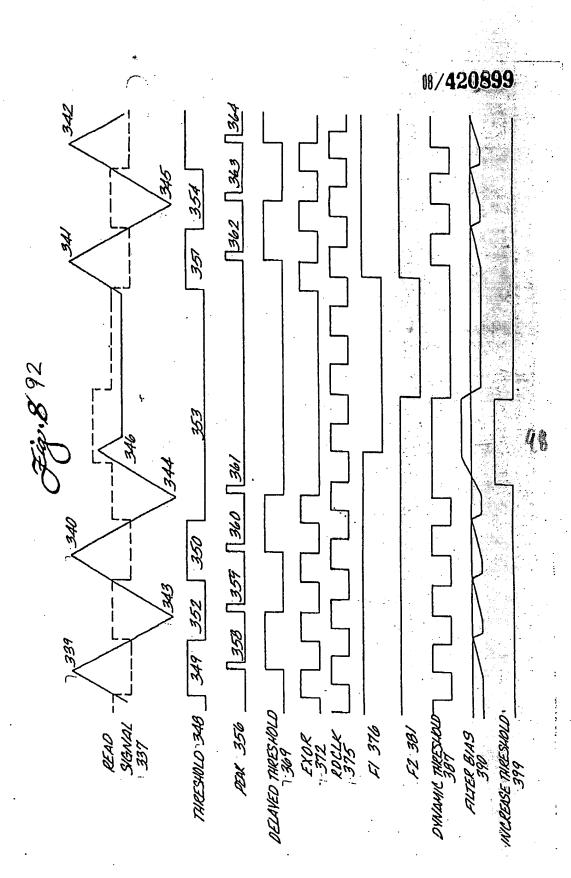




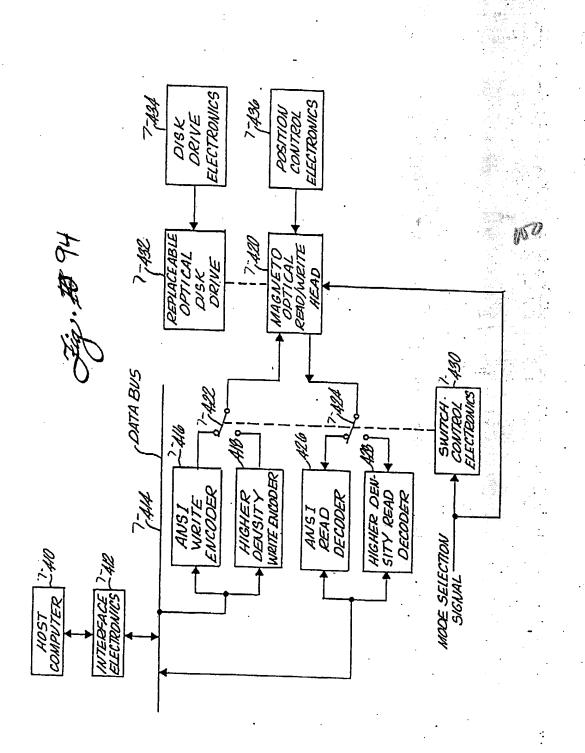




08/420899 NO S NO S NO S NO S



15V



SENT BY: Lyon & Lyon L. A.

1-19-95; 9:07AM;

Lyon & Lyon _.A.→

719 527 3402:# 3/ 4

08/420899

TRACK LAYOUT

TRACK

480 TRACKS

20NE 80

10

11

20NE 19

11

20NE 11

11

20NE 11

11

20NE 12

11

20NE 13

11

20NE 14

11

20NE 13

11

20NE 14

11

20NE 17

11

20NE 10

11

20NE 10

11

11

20NE 10

11

11

20NE 10

11

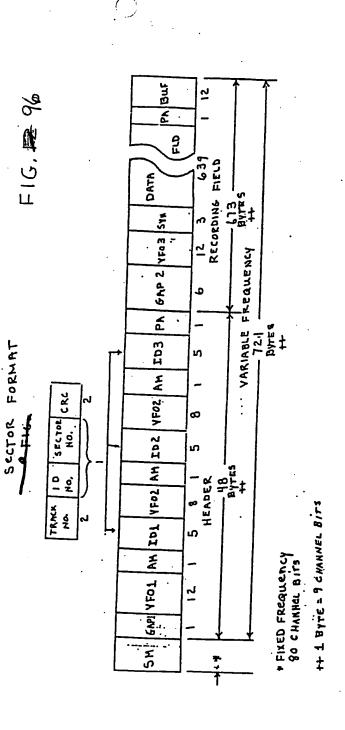
11

20NE 10

11

11

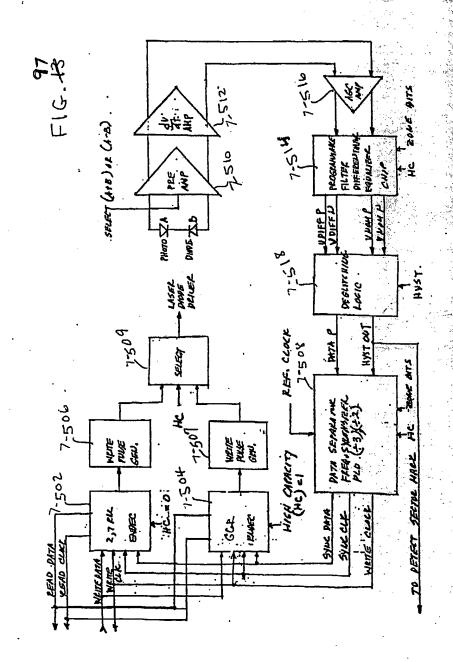
120NE 10



And Applicated Applications and Applicate Applications of the second

The state of the s

14/1 18/420899



in September

HIGH CAPACITY DRIVE

ZONE	(Assocore)	No. OF SECTORS PER TRACK	NO. OF SEC, FEWE	WATE FREQ.
3 3 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	60 — 525 36 — 5711 72 — 6187 88 — 6663 86 — 7199 90 — 7616 16 — 8091 92 — 8667	40 42 44 45 45 47 48 45 47 48 45 50 50 50 50 50 50 50 50 50 50 50 50 50	19040 19516 1992 10944 21420 21421 22372 22372 2234 23300 24276 24752 25522 26706 21656 27102 21656 27102 21656 27102 21650	10.591 10.852 11:868 11:868 11:963 12:180 12:705 12:705 12:872 13:831 14:362 14:362 14:362 14:362 15:467 15:467 15:950

104

CRC FOR ID FIELDS

The 16 check bits of the CRC of the ID field shall be computed over the first three bytes of this field. The generator polynomial shall be:

$$G(x) = x^{16} + x^{12} + x^5 + 1.$$

The residual polynomial is defined by:

$$R(x) = (\sum_{i=8}^{i=23} \overline{b_i} x^i + (\sum_{i=0}^{i=7} b_i) x^i) x^{16} \mod G(x)$$

where bi denotes a bit of the first three bytes and bi an inverted bit. Bit b21 is the highest order bit of the

The contents of the 16 check bits ck of the CRC are defined by:

$$R_c(x) = \sum_{k=0}^{k=15} c_k x^k$$

c15 is recorded in the highest order bit of the fourth byte in the ID field.

08/	/420)8 S	9

106

			1 F 1				
	8 8	it Byto	Encoded	8 6	it Byte	-	
	Hex	Binary	7 Bit Byte	llex		-	oded
ĺ	80 61	00000000	011001311	30	Binary	7 81	t Byte
٠	02	00000001	011001001	41	01000000	010	001011
	03 04	00000011	1 101100013	42 43	01000010	1 01.0	010010
-	05 06	J 80000101	911001010 101100101	44	01000100	1 610	010011
	07	00000110	101100110	46	01000101	1 010	010101
1	08 09	00001000	011001111	47	01000111	1 010	010111
	OA	00001010	101101001	49.	1 01001001	1 040	001111 01400)
]	00 00	00001011	101101011	6 B.	01001010	610	011016
١	0 D 0 E	00001101	101101101	4C	1 01001100	0.10	011011 001110
١	0 F	00001110	101181110	4E 4F	01001101	1 010	011101
1	10 · 11	00010001	001001011 001001001	80	01001111	1 010	011111
1	11 12 13	00010010	011001101	51 52 53	01016001	001	100101
1	14 15	1 00016168	100100011	53	01010011	010	10010
١	16	00010101.	100100101	55	01010100	0103	10101
	17 18	00010111	1 100100111	54 57	01010110	1 6101	10110
1	19 14	00011001	100101111	57 58 59	01011000	1111	00101
1	18	00011010	100101010	54	01011001	0 101	11001
ı	1C 1D	00011100	001001110	58 50	01011011	1 6101	11010
	1 E 1 F	00011110	100101101	1 SD	01011101	1101	00101
1	20 21 22 23	00011111	100101111	SE.	01011110	0101	11101 11110 11111
L	.22	00100001	101001101	60	01100000	1 0111	00110
ı	5? 5?	00100011	001010010 001010011	61 62 63	01100010	0110	00110
ı	25 25 26 27 28 21 24 28	00100100	101001110 001010101	1 45	01100011	0110	10011
i	27	00100110	001010110	45 46 47	01100101	1 0110	10101
l	. 28 . 29	00101000	101001011	68	01100111	1 0110	10110
İ	2 A	00101010	001011001	67	01101001	1 1111	00110
ı	20 20	00101011	101001011	i 63	01101010	0110	11010
l	2.5	00101101	001011161	6C 6D	01101100	1101	0011p i
ı	2F	00101111	001011110 001011111	4E 4F	01101110	0116	11101
l	24 22 25 21	00110000	011100011	70	01101111	0110	11111
	33	00110010	901110010	71 72	01110001	0011	00111]
ı	34 35	00110100	010100011	72 73 74	01110011	0111	10010
	36	00110110	001110101	75	01110100	0101	00111
ľ	28	0011111	001110111	76	01110110	0111	10110
l	34	00111001	001111001	78 77	01111000 01111001	0111	00111
	38 30	00111011	001111010	7A 78	01111010	0111	11010
	30	00111100	110100011	70	01111011	0111	11011 1
	3 E	00111110	001111110) žĔ	01111101	81111	uioi l
ŗ	sition	6: 1		7 F	01111111	0111	iiiii
10	byte	<u> </u>		fosition in byto	8 . 1	,	1
							l

FIG. to 100a

a-Bit		
	Byte	Encoded
Hax	Binary	9-Bit Byte
81234586789 48CDEF01211111111111111111111111111111111111		111001011 111001011 1110010101 111001011 11100101 1110

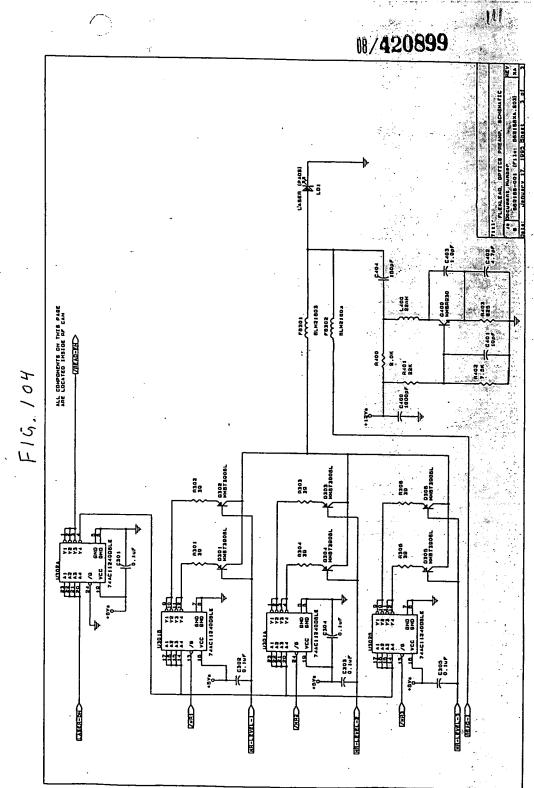
			T
 	8-61		Encoded
H	**	Binary	7-Bit Byt 18
	0123454787A8CDEF0123456789A8CDEF0123456787ABCDEF0123456787ABCDE	11000001 11000001 110000101 110000101 110001001	7-81 t 8yt
	yte	8 1	, 1

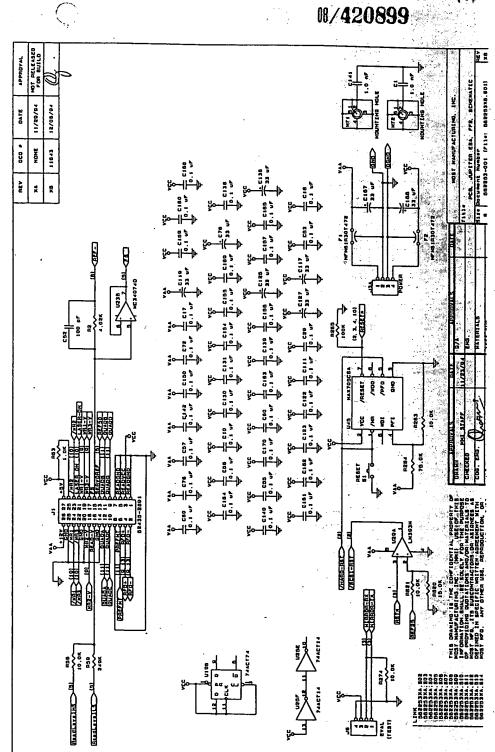
``

FIG. 456 100 b

FIG. 101

F16. 103





F16. 106

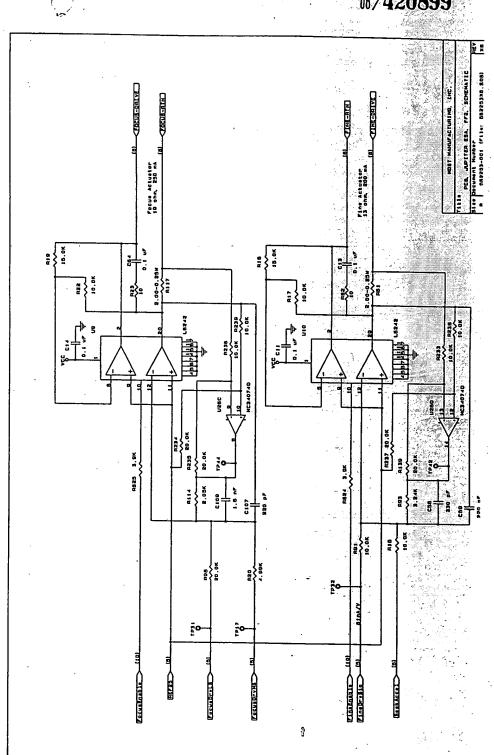
08/420899

F1G. 107

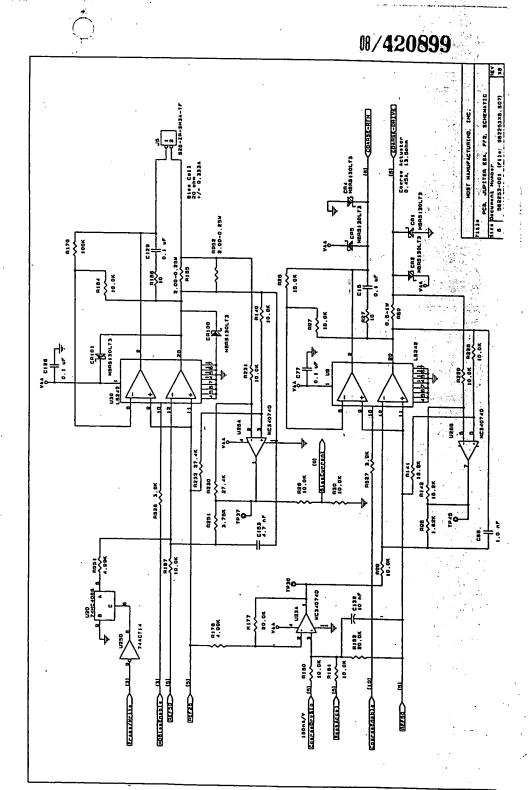
08/420899

011-01-1

08/420899



下16, 二

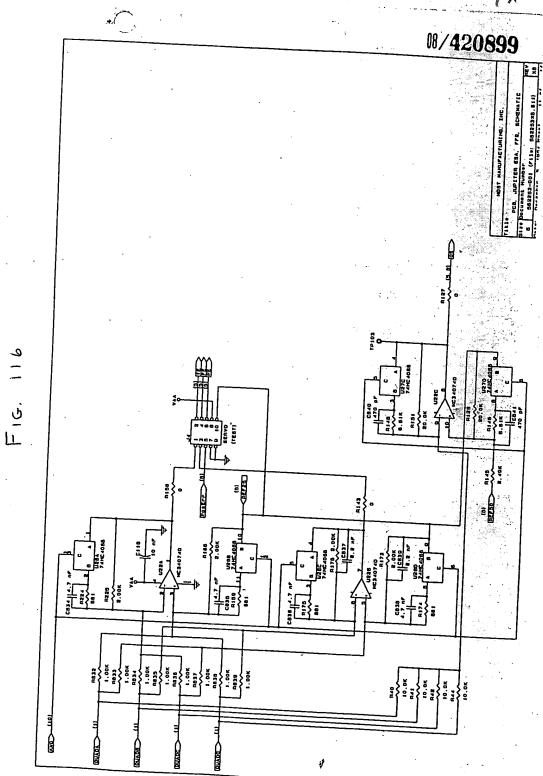


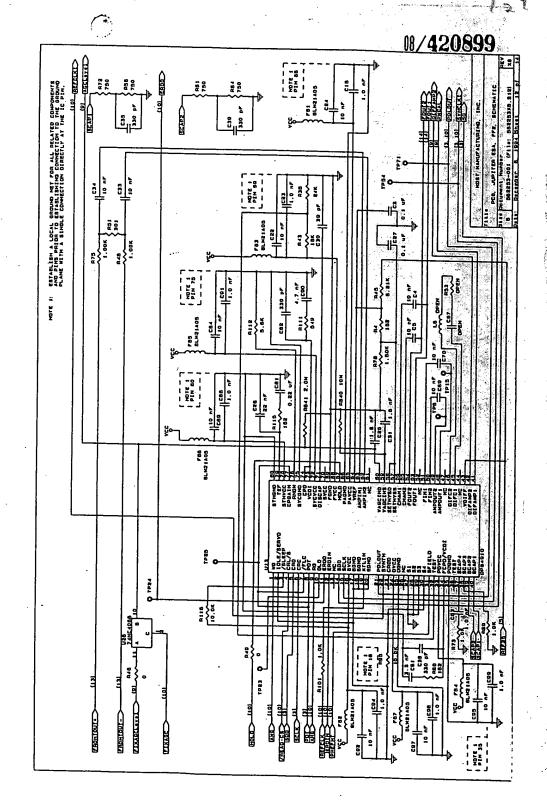
F16 112

08/420899 PLACE CLOSE TO JE (INTE-)(141)->>>> (INTE-)(141)->>>> (INTE-)(141)->>> (INTE-)(141)->>> (INTE-)(141)->>> (INTE-)(141)->>> (INTE-)(141)->>> (INTE-)(141)->>> (INTE-)(INT

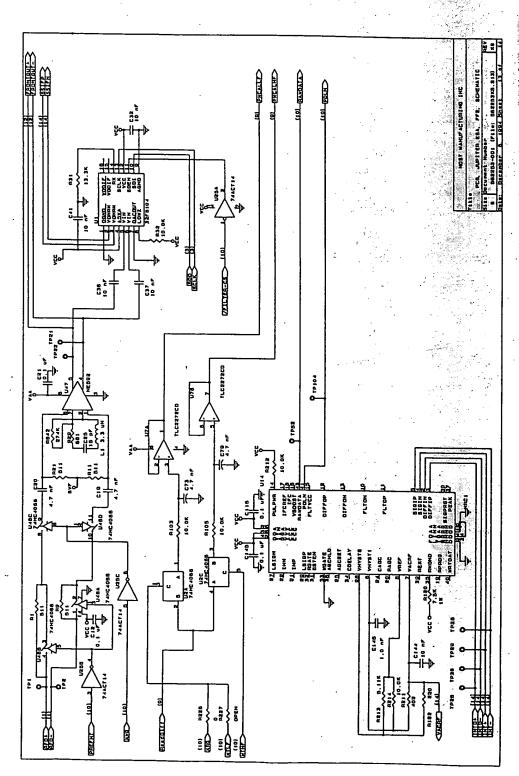
F1G. 114

F1G. 115

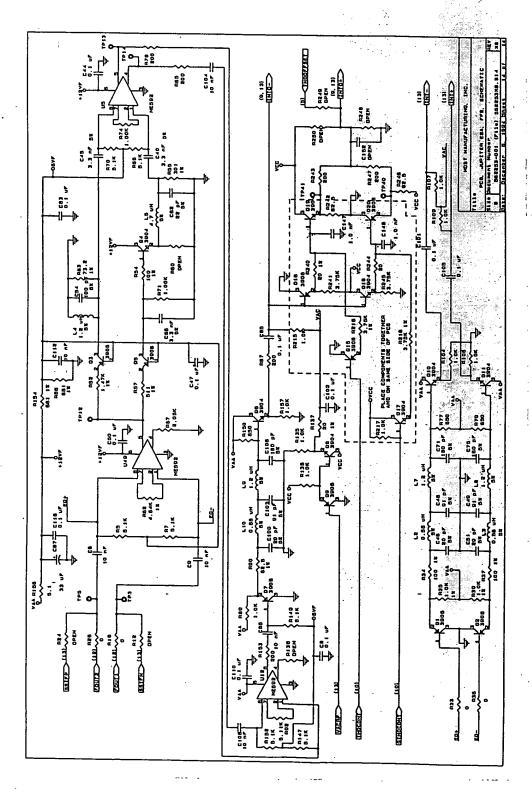




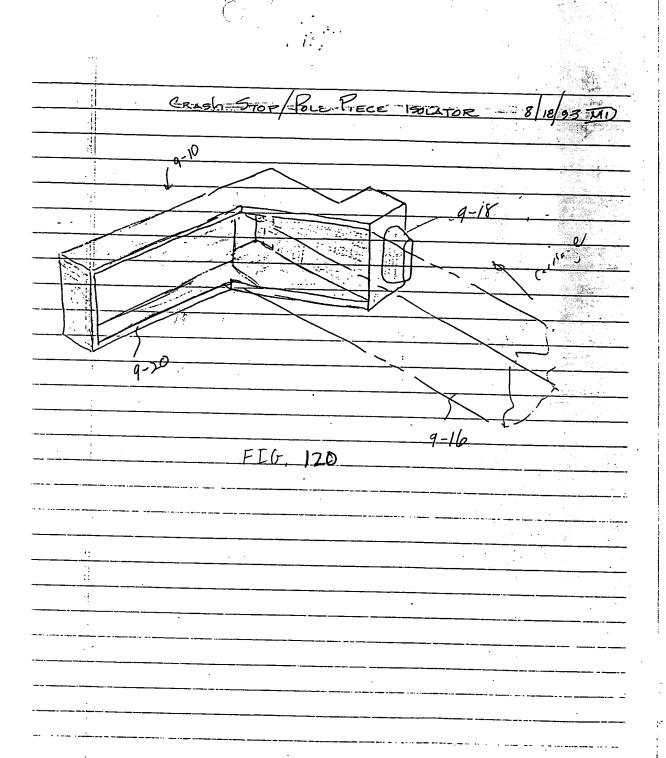
08/420899

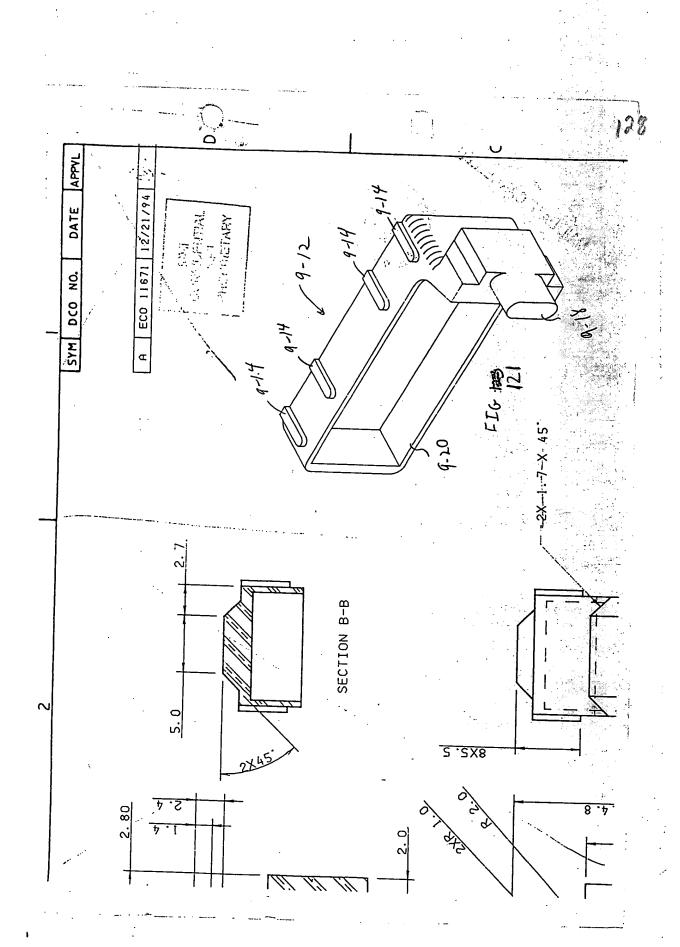


F16, 118



F1G. 119





This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

BLACK BORDERS

IMAGE CUT OFF AT TOP, BOTTOM OR SIDES

FADED TEXT OR DRAWING

BLURRED OR ILLEGIBLE TEXT OR DRAWING

	GRAY SCALE DOCUMENTS
	LINES OR MARKS ON ORIGINAL DOCUMENT
П	DECEDENCE (C) OD DVIIIDIM(C) CVIDICIMEDD A

☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS

☐ SKEWED/SLANTED IMAGES

☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

☐ OTHER:

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.